# Missouri S&T Magazine, Spring 1995

Miner Alumni Association

A PUBLICATION OF THE MSM-UMR ALUMNI ASSOCIATION

MSM

# ALUMNUS

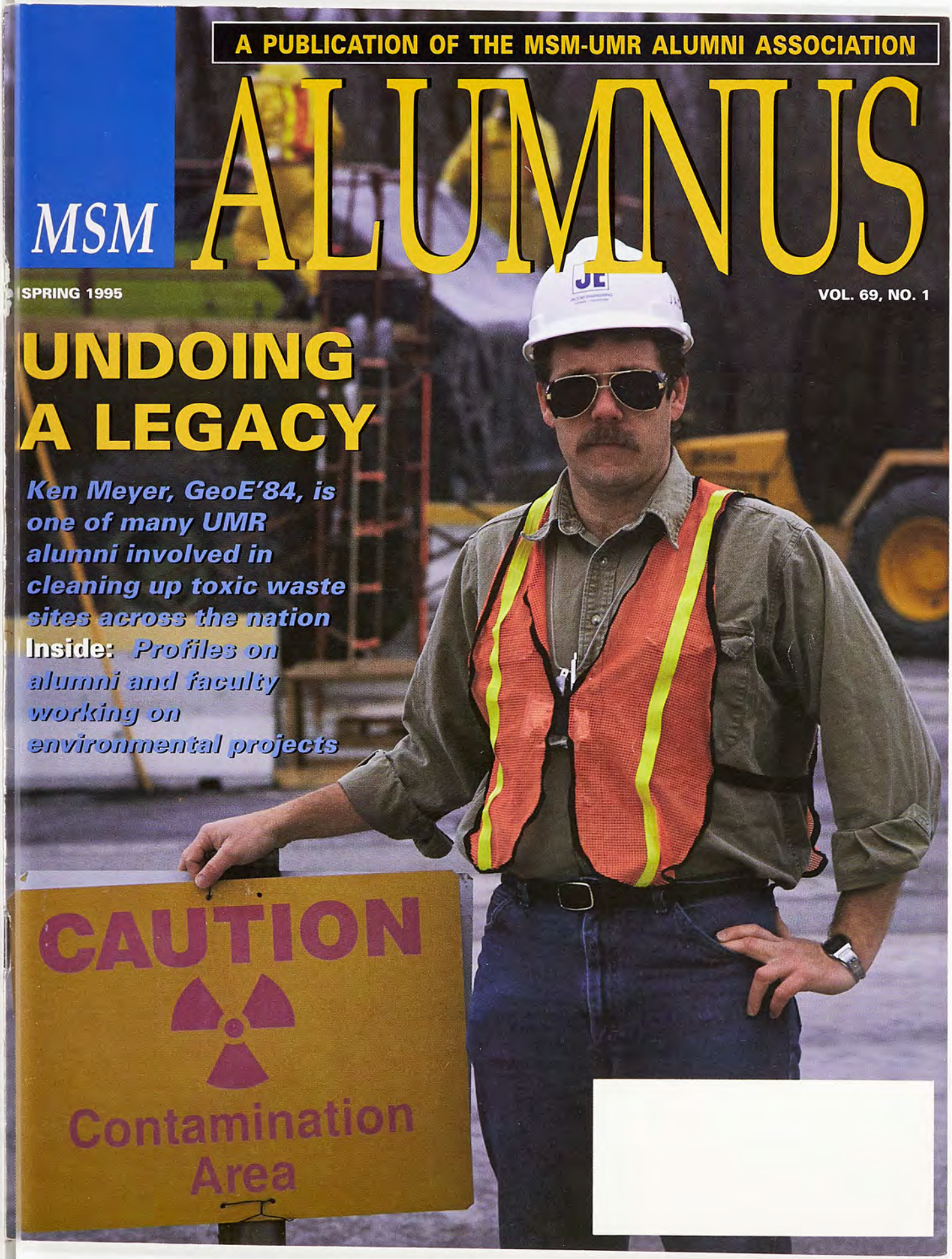
SPRING 1995

VOL. 69, NO. 1

## UNDOING A LEGACY

*Ken Meyer, GeoE'84, is one of many UMR alumni involved in cleaning up toxic waste sites across the nation*

**Inside:** *Profiles on alumni and faculty working on environmental projects*



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MSM

# ALUMNUS

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## FEATURES



On the cover: Ken Meyer at a quarry being cleaned out at the Weldon Spring site. In the background, workers go through the steps of preparing a dump truck to safely deliver a load of contaminated waste to a storage area nearby. Photo by Dan Seifert/ Stone House Photography.

# LETTERS TO THE EDITOR

## Men at Work

I am writing to express my extreme disappointment in the staff of the *MSM Alumnus* for the title "Men At Work" on the cover of the Winter 1994 issue. While the title and the accompanying photograph may represent the past at MSM and UMR, they surely do not represent the present nor the future of the university. I am sure that J.S. Alberici Construction Company is a fine corporation in many aspects, but the magazine cover illustrates clearly that they employ no female MSM-UMR graduates, a point not lost on those seeking gender equity in the workplace.

I find it ironic that your oversight should appear in an issue that also highlights the Minority Engineering Program. The article states that while much progress has been made for minorities at UMR, "as far as climate on this campus is concerned, we've got a long way to go." Your magazine shows that the climate for women also continues to be chilly.

I am very proud to be an alumna of UMR, and I have praised the school on many occasions. However, I would be embarrassed to show this issue to prospective students or fellow engineers as an example of what the institution represents.

*Katherine A. (Stone) Phillips, NucE'90*

The inconsistent messages I received from the Winter 1994 *MSM Alumnus* magazine concern me. The cover article touts the accomplishments of "Men at Work." The next article features the Minority Engineering Program. One of the program's students stated that "..as far as climate on the campus is concerned, we've got a long way to go." I contend that the climate at the Alumni office could also use some improvement.

I discussed my viewpoint with a representative from the office. She apologized and told me that she understood. She was very happy to report that a future edition would be dedicated to the women graduates of UMR.

I do not think a special "token" women's issue is the answer. I would prefer to see these articles throughout every issue. I do not need another means to show me that I am different from my fellow alumni. I would prefer to be considered an alum of UMR who happens to be a woman. The fact that a special magazine is even under consideration tells me that the Alumni office has not completely accepted that women are an integral part of the university.

Perhaps you can concentrate on the achievements of our diverse alumni population without recognizing and editorializing on their gender. Let's celebrate the accomplishments of those individuals who have contributed their skills to making positive changes. Respecting diversity consists of more than pointing out differences in people.

*Valerie J. Williams, EMgt'84*

Did anyone else find a problem with the *Alumnus* winter issue, or was it just me? Correct me if I am wrong, but I did not notice any females, in fact, I did not notice any minorities on the cover. It seems odd to run this cover and also run an article on minority engineering students, which states "as far as climate on this campus is concerned, we've got a long way to go." What disturbs me even more is the cover title, "Men at Work" How can this magazine glorify a company who has such obvious "caveman" hiring policies. Someone please notify J.S. Alberici that they might be one of the Midwest's largest construction firms, but until they recognize the value all minority engineers have to offer, they won't be "one of the best."

*Tom Werner, EMgt'84*

*Editor's note: We apologize to those alumni who were concerned with the cover title "Men at Work." The J.S. Alberici Construction Company was not involved in the choice of this title. The Alberici Company does employ minority and female engineers, however, at the time the photo was taken no MSM-UMR minority or female engineering alumni were in their employ.*

## Entrepreneur Issue

Have been wanting to write for some time to let you know how impressed I was with your special edition of the *MSM Alumnus* dealing with the "Entrepreneurial Spirit." I read the issue from cover to cover and certainly enjoyed it.

*Ted Gosen, Chem'51*

I am taking this opportunity of thanking you for sending me the *Alumnus* and to praise you for the changes, all rather to be complimented, in the last two issues of the Alumnus.

*George S. Richardson, M.D., '33*

I didn't know until you brought it out that so many Miners branched into entrepreneurship. This was great.

MSM-UMR has really made a contribution to the business world and I'm thankful you are bringing this out. Your *Alumnus* is the tops.

*Charles Boulson, EE'39*

I would like to compliment the alumni association for the special issue on entrepreneurial alumni - some very interesting info.

*Lowell D. "L.D." Stevenson, ME'70*


MSM ALUMNUS

**Mission of the *MSM Alumnus* magazine**

The MSM-UMR Alumni Association publishes the *MSM Alumnus* to communicate and reflect the past, current and future interests of the alumni of the Missouri School of Mines and the University of Missouri-Rolla.

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# Your comments please.

Recently we asked our alumni, students and faculty and staff to submit ideas for a new logo to replace the old "block" University of Missouri logo that has been in use for years. Many entries were received, and the campus logo search committee has selected the six ideas at right as finalists. Now we are welcoming your comments and suggestions. Please look at the logo ideas shown here and give us your thoughts on how effective each is in identifying the University of Missouri-Rolla. Remember that this new logo will be used on official campus stationery, athletic uniforms, signage, and publications, so it needs to be adaptable to a variety of applications, and easily recognizable by a large variety of audiences.

Send us your comments one of the following three ways:

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Please include your name and the number(s) of the logos you are commenting on. We'll announce the selected logo in an upcoming issue of the *MSM Alumnus*.

**COMMENTS MUST BE RECEIVED NO LATER THAN APRIL 17 TO BE INCLUDED FOR CONSIDERATION.**

1 UM-ROLLA

2 UMROLLA

3 UMROLLA

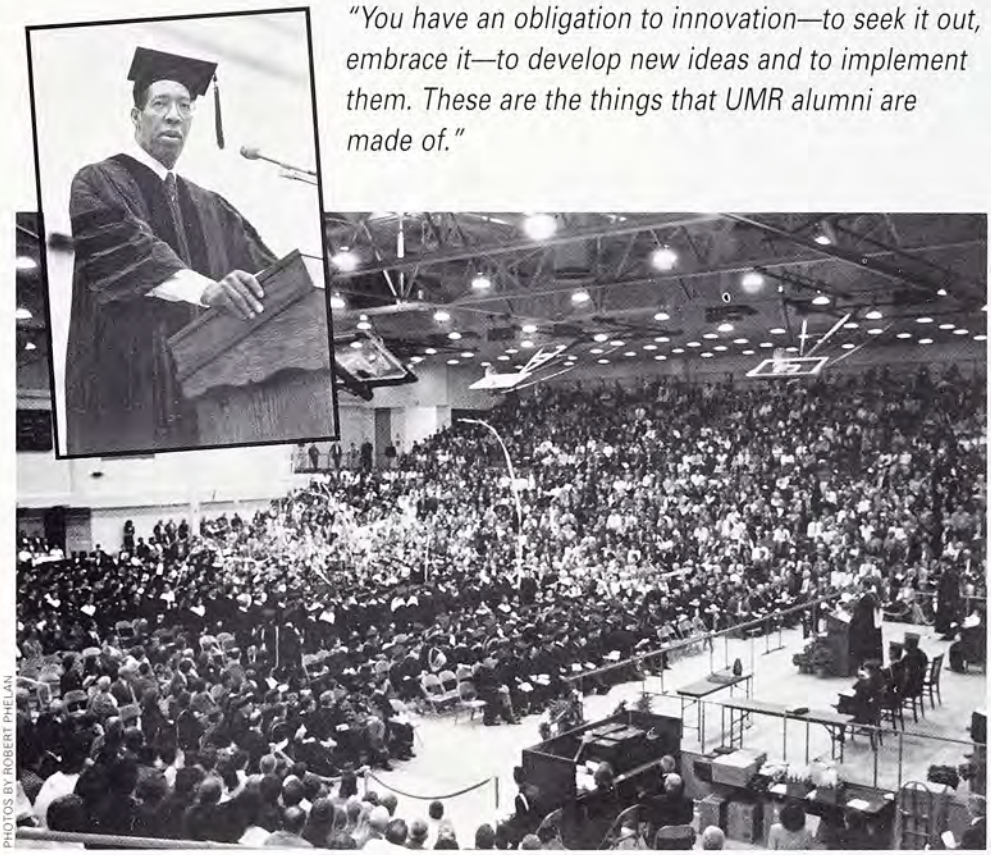
4 UMM ROLLA

5 UMROLLA

6 UMROLLA

**COMMENCEMENT**

# Speaker tells grads: innovate, embrace diversity



PHOTOS BY ROBERT PHELAN

*"You have an obligation to innovation—to seek it out, embrace it—to develop new ideas and to implement them. These are the things that UMR alumni are made of."*

Armed with their degrees and UMR experience, UMR's newest graduates now have the tools to be innovators, according to entrepreneur and December commencement speaker **Eugene D. Jackson**, EE'67.

"You have been endowed with tools to make a difference with new ideas," Jackson said at the Dec. 17 commencement ceremony. "You have the potential to advance new concepts, to implement change, to do things differently—better than ever before. You have an obligation to innovation—to seek it out, embrace it—to develop new ideas and to implement them. These are the things that UMR alumni are made of."

Jackson, now chairman and chief executive officer of the World African Network, a 24-hour cable television network, was one of seven African American students at Rolla in 1964. In his speech he also encouraged the new graduates to promote diversity in the work place.

"In order to meet the competition on the global economic playing field, we must ensure that every member of our team has completed his or her education and training and feels he or she has an unconditional partnership in the future of our great country," Jackson said. "To achieve this all-important objective of securing America's long-term competitive position in the new world marketplace, we must tackle our most difficult domestic challenge: achieving parity in workplace diversity.

"We must meet head-on whatever prejudices and concerns we have for our fellow Americans, for it has been the area of race relations that has, for centuries, gone unresolved and threatens to cripple some of America's greatest contributors—that means you."

## Two faculty receive professorships

**Robert E. Moore**, CerE'56, professor and chair of ceramic engineering, became UMR's newest Curators' Professor, and **Frances Haemmerlie Montgomery**, professor of psychology, became the campus' newest Distinguished Teaching Professor during December commencement ceremonies.

Moore, a member of the Rolla faculty since 1957, is known for his early work on glass-bonded mica materials and more recently for his research in refractory ceramics. He currently directs a research program on refractories for the handling of molten steel for the American Iron and Steel Institute.

Haemmerlie Montgomery (left) joined the UMR faculty in 1978 and has received several teaching awards for her work. Her research work with students has resulted in some 25 co-authored papers published in psychology journals or presented at professional meetings.

The Curators' Professorship is awarded to faculty primarily for their research work, and the Distinguished Teaching Professorship recognizes faculty who demonstrate excellence in teaching.

PHOTOS BY DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

## Smith named vice chancellor for university advancement

After 11 years as vice chancellor for administrative services, **Neil K. Smith** has been named vice chancellor for university advancement.

Chancellor **John T. Park** announced the appointment in early December.

Along with Smith's appointment come these other administrative changes at UMR:

•While the campus searches for a new vice chancellor for administrative services, the interim job will be split between **Marvin L. Patton**, director of physical facilities at UMR, who is now interim vice chancellor for physical facilities, and **Randall V. Stoll**, director of purchasing and business services, who is serving as interim vice chancellor for financial services.

•**Wendell R. Ogrosky**, vice chancellor for student affairs, took over direction of UMR's athletics program in January. Smith had been over athletics while he was vice chancellor of Administrative Services.

Smith, who became interim vice chancellor for university advancement last June, is "the right man for the job," Park said. "He is a proven leader, loyal to the campus and the community, and he possesses the organizational abilities and interpersonal skills we need to help us continue our momentum in University Advancement.

"Neil understands the importance of good management practices and goal-setting, and he is committed to helping each unit achieve success," Park said.

Smith's new duties include leading the offices of development, alumni relations, publications and news services as well as public radio station KUMR.

## UMR to host 17th Annual Intercollegiate Mining Competition

Mining students from dozens of colleges and universities will converge on Rolla this spring to try their hand at old-fashioned mining techniques during the 17th Annual Intercollegiate Mining Competition.

UMR will host the event Thursday, April 13, through Saturday, April 15, at the UMR Experimental Mine. Because the UMR team won the event last year, the campus gets to host the competition. This is the first time the event has been held at Rolla.

Men's and women's "mucking" teams from each school will test their skillfulness with old-fashioned mining methods and handheld tools. Five- to six-member teams will take part in timed events, such as gold panning, surveying, hand-mucking, handsteeling, track-standing, Swede sawing and jackleg drilling.

According to Ron Robison, supervisor of UMR's Experimental Mine Facility and trainer of UMR's mine rescue and mucking teams, mining teams from universities in the United States, as well as Canada and Australia, will take part in the competition. "We expect between 20 and 30 teams to take part in the competition," Robison says. "Any university with a mining engineering program will more than likely compete."

UMRolla's team won first place in overall men's competition during the event held last spring in Elko, Nev. The UMR team finished in first place in five of the seven events held.

In addition, the first UMR women's mucking team to ever compete in the event finished second overall in the women's competition, scoring in first place in three of the seven events held.

*Photos from the 1994 competition in Nevada—(top) UMR men's mucking team busy earning the first-place title; (bottom) UMR women's mucking team members after competition. Photos by Ron Robison.*

## Einstein unveiled

Looking for inspiration? Head to the first floor of the Curtis Laws Wilson Library, where you'll find a bronze bust of the father of relativity: Albert Einstein. The 45-pound bronze bust, created by Rolla artist Louie Smart, was created from a photo of Einstein returning from a fishing expedition. During the bust's unveiling in December, Smart said he tried to capture the physicist's humanity and love of people.

"UMR is an apt place for this smiling Einstein that celebrates the joys of imaginative insight," says James Bogan, professor of art and chair of Friends of Einstein. "We hope he will be an inspiration to generations of students to come."


PHOTO BY DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

For more information about any of these news items, please contact: UMR News Services 314-341-4328.

AROUND CAMPUS

# Net News

PHOTOS BY DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

*Student Council members Andrew Lecren, Andrew Sears and Dan Engle show off their World Wide Web "home page" for student governments.*

## O, WHAT A NEW-FANGLED WEB WE WEAVE...

### *UMR Student Council brings student government on-line*

Newt Gingrich can brag all he wants about putting government on-line; UMR's Student Council has him beat by a fiber-optic mile.

Last fall, before the elections, UMR's student government created a World Wide Web "home page" designed to exchange information on student government with college students worldwide. Now anyone with access to the Internet can find out what's going on with the UMR Student Council and more than 50 other student governments throughout the world—including schools in Canada, Finland, Germany, Israel and the United Kingdom—through the UMR StuCo's Internet Headquarters for Student Governments. The service was created by UMR Student Council President Andrew Sears, a senior in electrical engineering, and fellow Student Council members Dan Engle, a junior in chemical engineering, and Andrew Lecren, a junior in computer science.

The service allows readers to view documents of the various student governments, information about student leaders, and photographs and video clips, and to hear audio presentations. "Students can use this service to find out what issues are important on other campuses as well as what services are successful," Sears says.

The network came in handy last fall as the UMR Student Council worked to revise its constitution. "We were able to get copies of 10 other student government constitutions in a matter of minutes" through the World Wide Web network, Sears says. The UMR students then compared their constitution with the documents of other institutions, he says.

UMR Student Council members demonstrated the service to the UM System Board of Curators in December, and the curators were duly impressed. Curator James McHugh noted that "the students may be teaching the teachers" computer literacy.

To access the Internet Headquarters for Student Governments, point your World Wide Web browser to http://www.umr.edu/~stuco/national.html.


### *UMR senior named to USA Today's team of academic all-stars*

Andrew Sears,(middle, photo at lef) a UMR electrical engineering major, is one of 60 college students chosen by *USA Today* for the 1995 All-USA College Academic Team profiled in the newspaper's Feb. 16 edition.

*USA Today* chooses these "academic all-stars" each year to recognize outstanding undergraduates who "combine academic brilliance with energetic leadership and a desire to use their talents to help others." Nearly 1,400 students were nominated for the honor.

Sears, president of the UMR Student Council, holds a perfect 4.0 grade point average. In addition to his stellar academic record, he also has volunteered for the local Big Brothers/Big Sisters organization, worked at a homeless shelter in Kansas City, and spent a recent summer as a missionary in South Africa. On campus, he spearheaded a UMR effort to establish the Internet Headquarters for Student Government, a network to link student governments all over the world.

## EE PROF HITS IT BIG ON THE INTERNET

### *Finally, something to do during those long Antarctic nights*

Here's proof that the Internet is ubiquitous: Kurt Kosbar, a UMR assistant professor of electrical engineering, creates an instructional software program for EE professors and announces it on the Internet. He expects to hear from a few interested electrical engineers. Instead he's flooded with electronic mail requests for the program from all over the world. He even gets a request from a physicist in Antarctica.

Now, thanks to the Internet, Kosbar's software is in the hands of more than 750 instructors in 52 countries and will be used to teach some 30,000 students this year.

"For a while, I'd come in the office and see 20 e-mail messages on the queue from all over the world," says Kosbar. Instructors from Argentina to Turkey were asking for copies of the program. The requests came not only from other electrical engineers. They came also from psychologists, hydrologists, radiologists—and the Australian physicist doing atmospheric research in Antarctica.

Kosbar first used the Internet to spread the word about his software two years ago. He has since released three newer versions of the software, an example of the "freeware" available on the Internet.

"One guy in Siberia is using it, and a couple of psychologists in Moscow are using it, and one guy in Estonia," Kosbar says. Counting the Aussie in Antarctica, Kosbar's software has reached every continent.

This phenomenon might be more understandable if it hadn't been for the arcane nature of Kosbar's product. It graphically illustrates a mathematical function known as "convolution"—a concept as tough to grasp as its name implies. In electrical engineering, convolution describes how electrical circuits respond to signals. It's a basic principle for EE, but Kosbar found that many of his students had trouble visualizing how it works. So he developed the software "just because of my frustration over trying to describe something that I thought should be pretty straightforward."

Apparently, Kosbar wasn't the only instructor having difficulty helping students comprehend convolution. After developing the program, Kosbar made a demonstration copy available on the Internet and advertised its availability on several Internet discussion groups frequented by science and engineering faculty. Later, he advertised the product in two professional journals. In his announcements, he asked people who found the demo version useful to e-mail him for instructions on how to access a free version of the software.

After that, the deluge.

As of December 1994, Kosbar had received more than 750 requests for the software. "I have no idea how many people have played around with the demo version but didn't request the software," he says.

He found that electrical engineers weren't the only ones interested in his software. It turns out that the convolution principle also helps radiologists describe why X-ray photos turn out blurry. It also helps hydrologists explain some phenomena related to flooding, and psychologists find it useful because it describes some features of the human nervous system.

Follow-up notes from people who used the early versions also helped Kosbar work bugs out of the software. He now has produced four versions of the program.

The Internet has not only helped Kosbar disseminate his work, but it also has given him a chance to explain American culture to residents of other countries. "I've had about 50 questions about the O.J. Simpson trial from people who want to know why Americans are so obsessed with it," he says.

### *Factory of the future may be virtual*

The "virtual factory"—in which products and the systems used to manufacture them can be designed and tested on a computer—is close to reality, say researchers Frank Liou and Bruce McMillin. The two UMR Intelligent Systems Center researchers are creating software to improve the costly early stages of new product development.

Making and testing a physical model of a design concept is often the most expensive part of new product creation, says Liou, a UMR associate professor of mechanical engineering. Through a contract with Software Systems Specialists Inc. of St. Louis, Liou and McMillin, a UMR associate professor of computer science, are developing software to create a virtual environment for testing these designs. The process would save time and materials while creating computer-simulated conditions that are "very close to the real world" of a production line, Liou says.

"With this process we can save time during the design stage, and we can eliminate a lot of poor designs at the early stages," Liou says.

Liou and McMillin call this concept "virtual rapid prototyping." It is the computerized counterpart to a design method known as rapid prototyping, or RP. RP involves converting a computer-aided design of a product into a physical model—usually of wax—by means of layering, sintering or deposition techniques. While rapid prototyping gives substance to a design, the process is impractical for many small manufacturers because of its expense—a typical RP system costs about $50,000, Liou says. Moreover, a wax prototype of a part, for example, cannot be tested like the metal or ceramic component it is supposed to represent.

But Liou and McMillin's virtual RP would allow designs to undergo a variety of tests via computer simulation. Design engineers could create virtual parts on the computer by simulating any variety of materials and textures, and then subject these virtual components to various pressures (for motor pistons, for instance) and speeds. The engineers also could see how well such components handle collisions with other parts, or they could even simulate an assembly line system to see how the parts would move on a conveyor or to determine whether a robotic arm could pick up the parts.

In essence, engineers could use the software to create a "virtual factory" to test entire production systems as well as the parts made on those systems.

The research began three years ago, when Liou received a $90,000 grant from the National Science Foundation and $20,000 from UMR's Manufacturing Research and Training Center to explore the feasibility of virtual RP. In October, he and McMillin received $60,000 from Software Systems Specialists Inc. to conduct a one-year feasibility study. This latest project is funded through the Army's Small Business Technology Transfer Program (STTR). The total project was awarded $100,000, with Patricia Suess, the president of Software Systems Specialists, as the principal investigator.

AROUND CAMPUS

## New center to help improve mathematics and science education in Missouri's schoolrooms

UMR faculty soon will lend their expertise to help area elementary and secondary school teachers improve their teaching of math and science. The effort is part of a statewide program to train Missouri students for the more competitive global marketplace.

"If it is done right, this state program should provide a real boost in education for Missouri students," says Wayne Cogell, associate dean of UMR's College of Arts and Sciences. "This is a collaborative partnership between K-12 faculty and administrators and UMR faculty, and it may change the direction of all public education in Missouri."

In January, Missouri Gov. Mel Carnahan announced the creation of the Regional Center for Professional Development at UMR. The center, one of nine in the state, was organized in conjunction with another UMR program, the Missouri Rural Science, Mathematics, Engineering and Technology Education (SMETE) Resource Center.

Through a $150,000 planning grant from the Missouri Department of Elementary and Secondary Education, UMR faculty will survey pre-college teachers and others in South Central Missouri to find how to improve education efforts, then develop a plan for meeting those needs. Based on the plans, UMR's center could receive up to $1 million through the State of Missouri Outstanding Schools Act.

"The state is setting aside significant resources for the professional development of elementary and secondary school educators," says John Fulton, dean of UMR's College of Arts and Sciences and interim director of the center. "We have been given an opportunity to do something wonderful for pre-college education in the state."

"Nationwide, students' scores in math, science and technology are decreasing, while the demand for people with these skills continues to increase," says chemistry Professor Harvest Collier, who helped bring the center to UMR. The center will bring together UMR faculty and teachers in the region to find better ways to prepare students for the 21st century.

Traditional lectures are "no longer the most effective way to teach students in junior high and high school," Cogell says. Demonstrations and hands-on approaches are more effective, but these take more planning, time, resources, equipment and ingenuity. The center will help teachers develop collaborative learning techniques and then share them across the state. Collier envisions the resource center as a lending storeroom where teaching supplies, such as lasers, science and mathematics demonstrations kits and other teaching tools, could be checked out.

"We could not only supply the equipment, but also the expertise on how to use the equipment effectively—either through a videotape or one-on-one training," Collier says.

Organizers hope eventually to share information via a computer and video network that would link every school in the state to each of the centers.

"A network would allow us to do the most good for those in more remote areas of the region," says Fulton. "The potential is strong to make a big impact in those parts of the region where the average family is not well off financially."

UMR will focus on mathematics, science and technology, but UMR faculty from other disciplines and experts from the other regional centers will cover other areas of need. "If we don't help, we could continue a cycle of poverty in areas where many of the resources are not available," Cogell says. "In order to meet the needs of all students, we must share resources and reach students in an effective way." ■

> "The potential is strong to make a big impact in those parts of the region where the average family is not well off financially."
>
> — Dean John Fulton

## Nader to speak at UMR

Consumer advocate Ralph Nader is coming to UMR this spring.

The author of "Unsafe at Any Speed" will deliver two speeches at UMR on Wednesday, April 26. His first address will be to participants of the Third Annual Central Missouri Economics Conference, sponsored by UMR's economics department. Nader will speak at the conference banquet at 6 p.m. in Centennial Hall of the University Center-West. Banquet tickets are $25 each ($15 for students) and are limited. To get tickets, call Linda Manning, associate professor of economics, at (314) 341-4828, or send an Email request to lindam@umr.edu.

Nader also speaks at 8 p.m. in Leach Theatre of Castleman Hall. The lecture is free, but tickets are required. They are available beginning March 27 from the UMR ticket window at University Center-West. For more information, call the ticket office at (314) 341-4219.

Nader's 8 p.m. speech is sponsored by the economics department, the Leaders for the 21st Century Lecture Series and the Harry W. L. Porth Distinguished Lecture Series at UMR. ■

# Sun-day is on the way

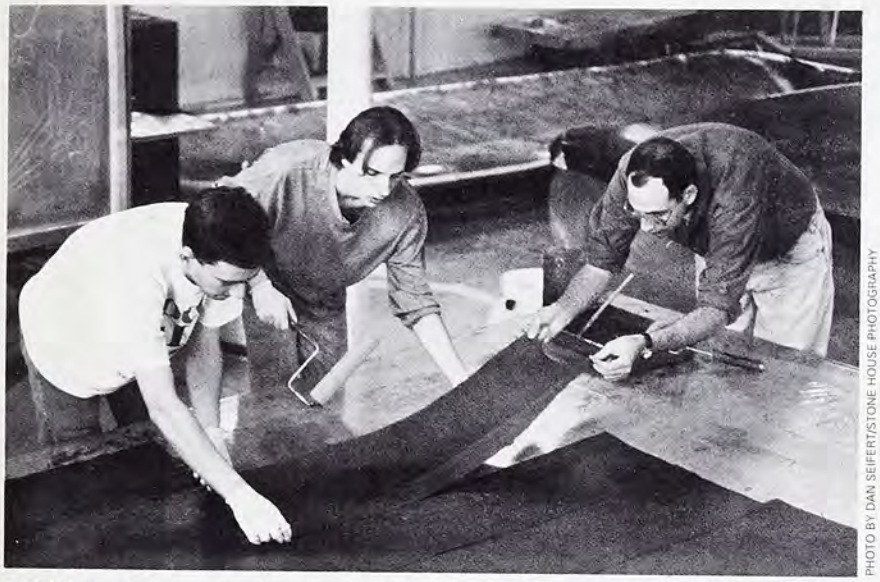


PHOTO BY DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

*UMR Solar Car Team members Steve Belarde, Robert Ziegler and Mike VanHouden lay out carbon fiber cloth used in the construction of material for infrastructure support of* E-Cubed.

## *For UMR's Solar Car Team, the name of the game is the three E's: energy, environment and education*

The vehicle's name—E-Cubed—is telling.

It stands for energy, environment and education—and UMR's Solar Car Team is considering all three E's in designing what they hope will be a winning entry in Sunrayce '95.

E-Cubed is one of 40 solar-powered cars that will take part in the cross-country race that begins in Indianapolis at the onset of summer—June 20—and ends on June 29 in Golden, Colo.

Alumni in the Midwest should have plenty of chances to see E-Cubed in action, as Sunrayce '95 will cover about 1,100 miles through the heart of America.

The team members—about 80 in all, from practically every discipline—are learning first-hand about the development of an environmentally friendly vehicle. "Even though a solar car may not be practical for everyday use in the near future, the technology that we learn from building our car will have a positive impact on the environment," says **Aaron Rutledge** of Jefferson City, Mo., a UMR senior in mechanical engineering and vice president of manufacturing and design for the Solar Car Team. "We are assisting in the development of an ecologically safe alternative energy form."

And the team is truly cross-disciplinary, Rutledge says. "We probably have a team member from nearly every degree program on campus," he says.

This is the second solar-powered vehicle UMR has fielded in the biennial Sunrayce. The UMR team's Sunrayce'93 entry, Sol Survivor, finished 29th out of 36 teams.

But UMR students look not only at the prospect of winning, but also at the learning experience. Like the first Solar Car Team, the current group has been involved in all aspects of developing a vehicle: raising funds, finding material and labor donations for the car, design and construction, and publicity.

*By Dick Hatfield*

### *Come see* E-Cubed *in action*

Come out this summer and show your UMR pride! Cheer on E-Cubed and the UMR Solar Car Team during Sunrayce '95.

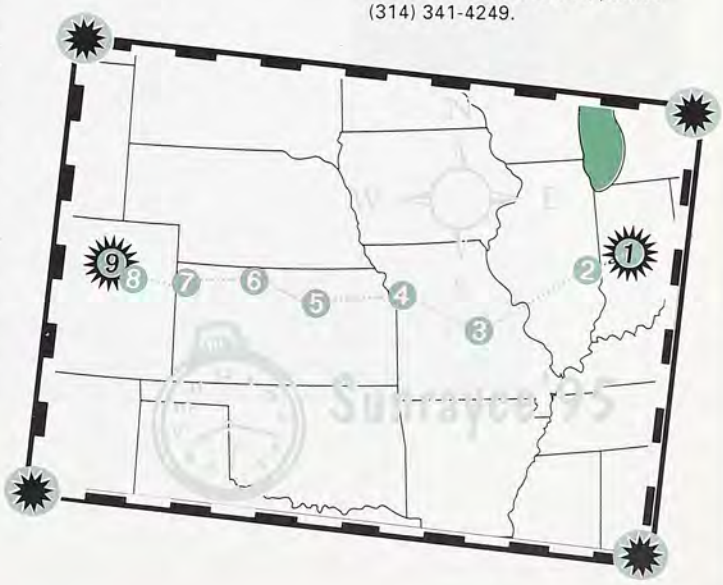
The team has adopted Alton, Ill., as its city during the race. Alton is the stopover for race participants on Wednesday, June 21.

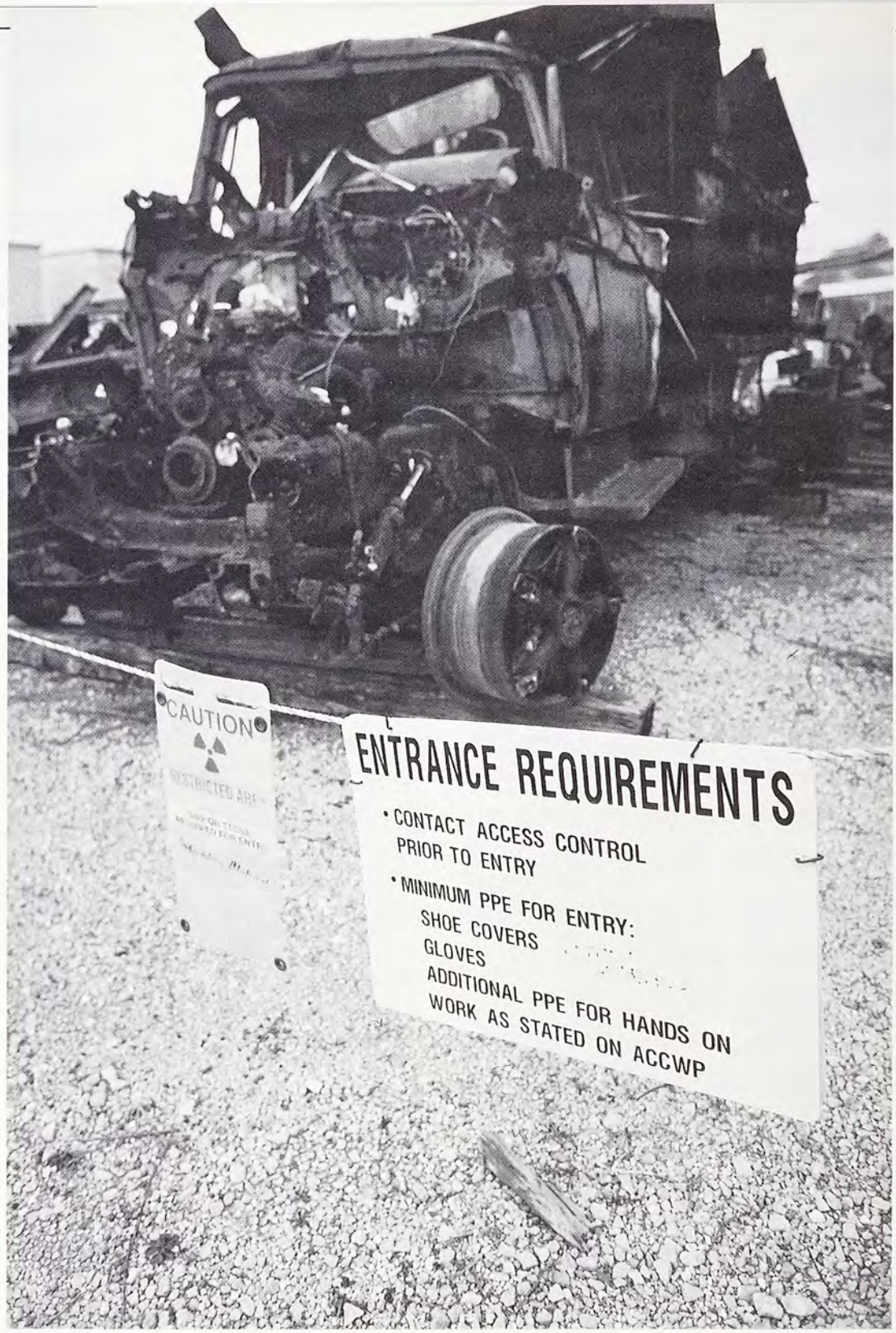
Other cities that will be stopovers during the race include:

| June | |
|---|---|
| 20 | Terre Haute, Ind. |
| 22 | Fulton, Mo. |
| 23-24 | Lee's Summit, Mo. |
| 25 | Manhattan, Kan. |
| 26 | Smith Center, Kan. |
| 27 | St. Francis, Kan. |
| 28 | Aurora, Colo. |
| 29 | Golden, Colo. |

The vehicles will race during daylight hours and will average a daily distance of 143 miles. The cars will gather at a common stopping point each night. The winner will be the car with the lowest cumulative elapsed time.

**How to help:** For information on how to help UMR's Solar Car Team, contact the UMR Solar Car Project, 202 Engineering Management Building, UMR, Rolla, Mo. 65401, phone (314) 341-4249.






DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

The skeletal remains of a truck are a stark reminder of a busy factory that once occupied the Weldon Spring site.

# WELDON SPRING:

## A $975 million Cold War legacy

**It was once a bustling ordnance works churning out munitions for the war effort in the '40s; then a uranium processing plant fueling the Cold War in the '50s. Now this St. Charles County waste site is a textbook example of the attention to detail essential in an environmental cleanup.**

**by Andrew Careaga**

IT'S MID-FEBRUARY, UNSEASONABLY warm, and six deer are resting in the shade of a grove of cedar trees on a hilltop near the Missouri River. A van approaches on an adjacent dirt road, but the deer are not alarmed.

"That's our herd," says the driver, Kenneth A. Meyer Jr. "They've gotten pretty used to us."

For eight years now, Meyer and the deer have shared the same 217 acres at the Weldon Spring Site Remedial Action Project, one of several Superfund cleanup sites being managed by the U.S. Department of Energy. Though smaller and perhaps less infamous than other DOE projects, such as the Rocky Flats site near Denver—which a recent DOE study called the most dangerous nuclear weapons facility in the nation—or the Hanford Plutonium Finishing Plant in Washington, the story of how Weldon Spring came to be is just as fascinating.

*The processing plant in operation during in the 1950s.*

Meyer, GeoE'84, knows the story well. A native of nearby Defiance, Mo., he grew up with the site practically in his back yard, and he knows people who used to work there. As the project manager for Jacobs Engineering Group, one of the firms involved in the DOE cleanup effort, he is involved in writing the final chapter.

The Weldon Spring site, located next to a wildlife area just north of the Missouri River and St. Louis, was wilderness until 1941. That year the Army took over some 17,000 acres of woodlands and farmland—including about two-thirds of a farm owned by one of Meyer's great-uncles—and turned part of the area into an ordnance works. The Army dug a quarry to mine aggregate rock for the roads into and around the plant, and a company called Atlas Powder moved in to manufacture TNT and DNT for the war effort. During the war, Atlas Powder and the Army used the abandoned quarry as a dump for their waste.

After the war, the Army sold part of the site to the University of Missouri. The university later sold some of its portion to the Missouri Department of Conservation, which turned it into a wildlife area. The munitions plant, meanwhile, sat idle until the Atomic Energy Commission took it over in the 1950s. It was the height of the Cold War, and the AEC wanted the site for a uranium-processing plant. The AEC built one there, and from 1956 to 1966, the plant, operated by Mallinckrodt Chemical Co., churned out uranium metal and stored "raffinate," its radioactive sludge byproduct, in pits on the site. ➢

The watery substance, along with waste from the old explosive production processess, leaked into the ground and contaminated groundwater. At the time, few people lived in the area. But today the quarry sits one-half mile from the drinking water source for over 70,000 people, including Meyer's family.

The Army took over the plant in 1967 with plans to convert it for the manufacture of Agent Orange. But the cost of cleaning up the plant proved prohibitive. The Army projected the job would take three years and cost $3 million, Meyer says. But after three years the Army had spent $30 million, and the conversion was nowhere near completion. So the Army abandoned the effort.

**"In some cases, we take things to the extreme. We follow the exact letter of the law. Not that that's bad, but it does make life more complex."**

The site again sat idle until the U.S. Department of Energy assumed control in 1985. The U.S. General Accounting Office ordered DOE to clean up the site, and a year later Weldon Spring was added to the U.S. Environmental Protection Agency's list of priority hazardous waste sites. Also in 1986, DOE hired MK Ferguson Co. and its pre-selected subcontractor, Jacobs Engineering, to do the job.

That's when Meyer, then a new environmental engineer with Jacobs, first set foot on the Weldon Spring property. He entered a virtual wasteland of some 40 abandoned, dilapidated buildings—one-story laboratories, warehouses and administrative buildings, and five large processing plants. The entire site was in disrepair. Utility poles were falling down. The overhead piping between buildings was decaying, as were the asbestos coverings. On the inside, the buildings were practically museums of the 1960s—Meyer and his co-workers found newspapers from 1969 still lying on desks and tables. The buildings also harbored aging electrical wiring, asbestos-lined pipes and leaking water lines. The last folks out had left the water on. "We were losing about 200,000 gallons of water per day," Meyer says.

"There were over 4,000 containers of chemicals scattered all around in the buildings." Many of the chemicals were unidentifiable. "A lot of the labels were gone and the containers were deteriorating."

Before they could get to the radioactive waste, the engineers had to figure out how to deal with the derelict buildings and infrastructure. That proved to be a big job, says Meyer, who is now one of 17 UMR alumni currently at the site. (Eight alumni work for MK Ferguson, seven for Jacobs, one for DOE and one with another subcontractor, Faegin America.)

The cleanup of the buildings began with a top-to-bottom washing to remove any potentially radioactive debris. Then crews began work on the interior hazards: asbestos in the window caulking, polychlorinated biphenyls (PCBs) on the tile floors (apparently from some cleaning solvent, Meyer believes), and "things you'd never think about," like mud-dauber wasps' nests, which were also hazardous because the wasps built them out of contaminated soil.

Asbestos was a big problem. "There wasn't a building here that didn't have some asbestos in it," Meyer says. "It may have been only on a couple of pieces of pipe, but it had asbestos in it. In some buildings, asbestos removal took six months. In others, it only took days."

Work crews put the asbestos-tainted materials in steel containers—some the size of dumpsters, others nearly as big as railroad cars—that are stored on site in areas cordoned off by yellow rope.

Next, crews gutted the buildings, removed hazardous materials, put it in drums and stored it in the hazardous waste building—called Building 434—where the materials remain. "PCBs, solvents, mercury metal, cyanide, acids, bases—nearly anything you can think of that is nasty, it's in there," Meyer says.

Then work began on the outer shell and the framework of the buildings. To minimize health and safety hazards—to keep workers from being exposed to lead- and cadmium-based paints, for instance—work crews used Bobcats with shears whenever possible to cut portions of the buildings. "We wanted to minimize the amount of human contact," Meyer says.

A photograph on Meyer's office wall commemorates the last building coming down on Dec. 8, 1994. It shows a crane pulling down the structure's leaning steel frame as dozens of employees in hard hats gather to watch.

Today, the site is a conglomeration of concrete slab foundations, rows of the dumpster-shaped steel containers, and stacks of lumber, steel, glass and other building materials, all cordoned off by yellow rope. Dirt roads kept damp by trucks that sprinkle water on them periodically weave around these sections and the raffinate pits, which hold the radioactive sludge, and a few holding ponds used to treat water that will be released into the Missouri River.

THE ORIGINAL PLANS for cleaning up the site called for a nine-year, $350 million effort. But delays in the environmental documentation process held up the project, Meyer says. By 1993, the year Meyer became Jacobs Engineering's project manager, all parties involved—including DOE, EPA and the Missouri Department of Natural Resources—finally came up with a plan that satisfied all the state and federal regulators. But that plan helped push the costs up to $975 million and extend the project timetable to 2002.

"Finding a way to make progress while going through the environmental documentation process" has been the biggest challenge for Meyer, he says. "It's taken a lot of work between us, the other contractors, the DOE and the regulators."

What it boils down to is this: Safety comes first. The regulations require very detailed procedures, and while the red tape may slow progress, it ensures that the cleanup will be done right.

"DOE is very conscious of complying with all the regulations," Meyer says. "In some cases, we take things to the extreme. We follow the exact letter of the law. Not that that's bad, but it does make life more complex."

For instance: "Every piece of equipment that is brought on this site goes through our own inspection. If it doesn't pass—if we find that a subcontractor's truck leaks oil, for example—it goes right back out."

The project management team follows the same rigid rules they lay down for other contractors. Burned-out fluorescent light bulbs are treated as hazardous wastes because they contain traces of mercury. "For 99.9 percent of the world, when a fluorescent light goes bad, it goes in the trash," says Meyer. "Ours go in a drum."

Safety is the chief concern, and the rules ensure that Weldon Spring is a safe place to work. When it comes to exposure

*The last building coming down on Dec. 8, 1994. Dozens of employees in hard hats gathered to watch as a crane pulled down the structure's leaning steel frame.*

to radioactive materials, the site is safer than a visit to a dental office. In his eight years on the project, Meyer has been exposed to about 10 millirems of radiation. "That's about one-eighth of a dental X-ray," he says.

The deer and other animals on site apparently have encountered little radiation exposure. Working with students from Lindenwood College in St. Charles, workers at the remedial action project tested deer, rabbits, squirrels, ducks and mice living on the site and in the adjacent August Busch Wildlife Area, and those tests show no elevated radiation levels. Water being treated on site and released into the wildlife preserve apparently does affect three lakes there, but only slightly, Meyer says.

AS MUCH TECHNICAL expertise as is required for such an enormous project as Weldon Spring, the biggest challenge for Meyer and the others involved in managing the project has been public relations. The quarry-turned-landfill is near the water supply of many St. Charles County residents, many of whom are newcomers who don't have Meyer's sense of history regarding Weldon Spring. For area natives, the site was once a source of jobs and income. But for the newcomers, news of a nearby Superfund site can be distressing. "Most of the people who were most concerned about this project were people who had just moved into the area," says Meyer, "and these were the people who were also the least informed."

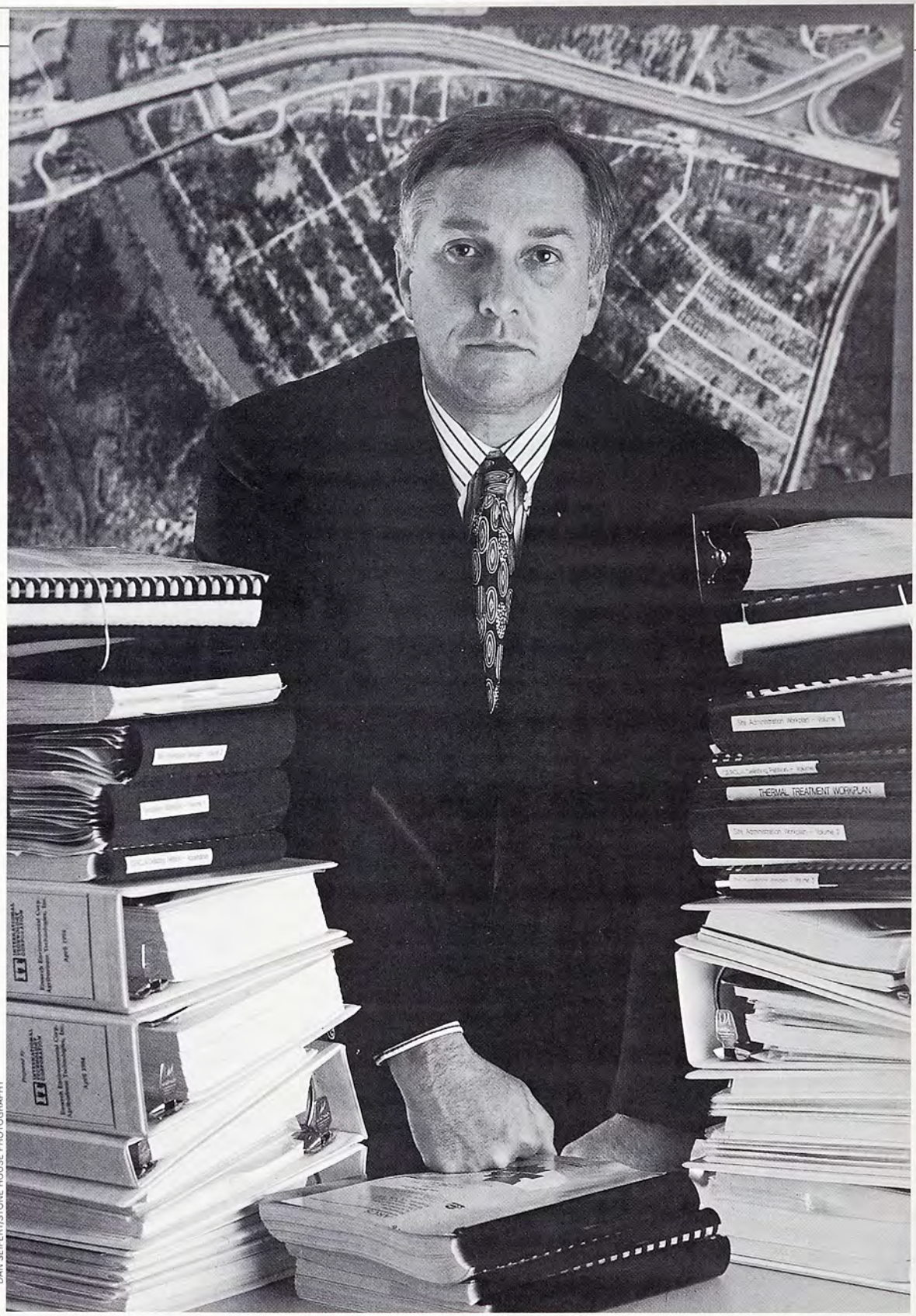
Compounding the problem was a "poor public image" DOE had during the beginning of the project. Part of that image stemmed from a 1982 plan floated by DOE to turn the site into a hazardous waste facility for a seven-state area.

"We've worked very long and very hard at turning that around," Meyer says. To keep the public informed, the engineers have held community public hearings—one was held as recently as Feb. 21—and publish bulletins about how the project is progressing. They've held two open houses, each one attracting 500 to 700 people. Boy Scout troops, high school science classes and even church groups have toured the facility, Meyer says, and he and others at the project reach out to local schools through DOE's Partnership in Education program.

WITH ALL THE BUILDINGS DOWN, the team is concentrating on the latest phase of cleanup: removing and treating water from the raffinate pits—where the radioactive sludge is stored—and waste from the nearby quarry.

The quarry had been used as a landfill since the days of the old ordnance works. In addition to waste from the explosive production, an entire uranium processing facility from north St. Louis was dismantled and dumped into the quarry. In all, about 100,000 cubic yards of waste—or 10,000 truckloads—will be removed from the quarry by this fall, Meyer says.

The next step involves handling the radioactive sludge left in the raffinate pits. The sludge will be mixed with cement and fly ash to form a more stable grout-type substance that will be encapsulated, along with the rest of the waste, in a state-of-the-art disposal facility to be built in the middle of the current complex of roads, metal buildings, treatment plants and stacks of building materials. A buffer zone will surround the facility to keep animals out, but the rest of the site will be returned to "unrestricted use." Which means the deer and other wild animals will be welcome there. ■




DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

Gary Pendergrass stands surrounded by the overwhelming paperwork involved in the application to operate an incinerator at Times Beach, Missouri.

# CLEANING TIMES

**Cleaning up a 600-acre, dioxin-contaminated site is an enormous job. Add to that the challenge of dismantling the ghostly remains of a town that once prospered there. A UMR alumnus is doing just that at one of the nation's most infamous toxic waste sites: Times Beach, Mo.**

**by Marianne Ward**

AS GARY PENDERGRASS WALKED among the abandoned buildings of Times Beach that November day in 1985, he thought about the town's past. Just three years earlier, Times Beach was a thriving resort town on the Meramec River southwest of St. Louis. Now it was empty—its buildings mere shells, its residents scattered to new communities.

The dioxin-contaminated oil that forced the exodus of Times Beach in 1982 was barely visible. But its effects lingered like the empty houses and abandoned cars.

"In a number of the homes, it looked like the people had stood up and walked out the door and never returned," says Pendergrass, MS GeoE'79. "I saw the evidence of the people who have lived there—swing sets still standing in the back yards and tricycles still in the driveways. The signs of the children made it more personal. I realized it must have been a tremendously traumatic experience for them."

For Pendergrass, the experience of walking through the place where no one else wanted to be was unsettling. "It was so quiet—too quiet," he says of that first visit to Times Beach. "It reminded me of a ghost town."

A demon called dioxin—a chemical presumed to cause cancer—drove the life from this town after it was discovered that the oil on Times Beach's roads was tainted with the chemical.

In the early 1980s the federal government declared the town of 2,240 people a hazardous waste site and ordered people to stay out. In 1985, Pendergrass came to begin the lengthy cleanup process.

As cleanup coordinator of Times Beach, Pendergrass' uneasiness came not from the dioxin—he understood its toxicity and knew how to avoid contamination—but from walking along block after block of abandoned houses. Even the usually focused Pendergrass couldn't help thinking about those who had called Times Beach home.

"I spent a lot of time by myself walking down the abandoned roadways and in the buildings," says Pendergrass. "It was very emotional. Seeing what was left behind gave me an appreciation of the people who had lived there. It was their home, their community."

Disaster struck just before Christmas 1982, when the Meramec River flooded and forced Times Beach residents to evacuate. Just as the flood waters receded and the residents returned to reclaim their homes, a second disaster struck—this one more catastrophic. The Environmental Protection Agency's tests taken at Times Beach in November and December 1982 revealed dioxin contamination. And while residents' dreams washed away in the flood, the dioxin clung to the soil there, and the Centers for Disease Control and the Missouri Division of Health advised residents not to return. The EPA concurred, deeming the 600-acre town too dangerous a place to live. In February 1983, the EPA spent $33 million to relocate Times Beach residents and businesses.

The dioxin contamination began in February 1971 and continued for several years. ➢

when a St. Louis-based oil-hauling firm first sprayed dioxin-contaminated oil to control dust on roads in Times Beach and 26 other sites in Eastern Missouri. The Centers for Disease Control took its first soil sample at Shenandoah Stables south of Troy in August 1971, but it wasn't until July 1974 that the CDC identified dioxin as the toxic substance in the samples taken at Shenandoah. Eight years later the EPA took the initial soil sample at Times Beach.

"Times Beach is the site that has received the most press coverage because of the buyout, but this is a much bigger project than just Times Beach," says Pendergrass, the Times Beach project coordinator for Agribusiness Technologies Inc. "This affects people in the entire St. Louis metropolitan area and other communities in eastern Missouri."

Sites include horse arenas, a lumber company, two church parking lots, the Bliss-Frontenac tank farm where the oil was distributed, a mobile home park and truck terminals. Closest to UMR is the Rosati/Piazza Road site located near Russell Bliss' home in St. James. The contaminated soil from the Rosati-Piazza site has been removed and placed in storage until it can be burned.

Bliss "spread dioxin-laced oil on his own property, so I don't think he understood the full ramifications of what he had and what he was doing," Pendergrass says.

The EPA investigated 400 sites for potential dioxin contamination. Of those, 150 were sampled and 27 were determined to have dioxin levels requiring some degree of cleanup.

"Scientists will probably argue the health risks of dioxin for years to come, but, the bottom line is if we destroy the materials, they will no longer pose a threat," says Pendergrass.

THE DIOXIN THAT TAINTED Times Beach and the other sites was a by-product of NEPACCO's production of hexachlorophene, an ingredient once used in toothpaste and mouthwash during the late 1960s and early 1970s. NEPACCO (the Northeastern Pharmaceutical and Chemical Co.) leased its production space from the Hoffman-Taff Chemical Co. in Verona, Mo.

"When hexachlorophene fell out of favor—the federal government banned its use—NEPACCO fell on hard times," says Pendergrass. "Rather than disposing of the materials in the fashion they had been (by incineration), they contracted with one of their chemical suppliers, Independent Petrochemical Co. (IPC), to dispose of the waste products. IPC subcontracted with Russell Bliss, who sprayed the dioxin-contaminated oil on roadways, parking lots and horse arenas for dust control."

**"People fear the unknown and what they don't understand. I'm trying to take the mystery out of this project."**

Syntex Agribusiness Inc., the parent company of Agribusiness Technologies Inc., purchased Hoffman-Taff and so inherited the cleanup burden. According to Superfund regulations, "the government has the authority to go as far down the chain as they need to find someone to fund a cleanup," Pendergrass says. "Hoffman-Taff was not around because Syntex had purchased it. IPC and NEPACCO were bankrupt and Russell Bliss did not have the money to fund such a cleanup, so the burden fell to Syntex."

In 1984, when the EPA and the state of Missouri sued Syntex for cleanup, the company "made a conscientious decision to put their resources into solving the problem rather than fighting this in court for years and spending a great deal of money on litigation," Pendergrass says.

Syntex created a subsidiary, Agribusiness Technologies Inc., to handle the cleanup. Since then, the road to a solution has become a story-high paper trail. The paperwork is necessary, Pendergrass says, "because everyone has to agree that what you're proposing to do will solve the problem."

"Hazardous waste is not our business; we make medicine," Pendergrass says. Syntex produces pharmaceutical products, including naproxen, an anti-inflammatory drug. "We felt, however, the responsible thing to do as a good corporate citizen was to solve the problem."

As part of the agreement with the government, Syntex was responsible for razing the 600 buildings at Times Beach, and even though many were not contaminated, the task was not a simple one, Pendergrass says. The buildings contained household hazardous wastes—everything from paints to pesticides—that had to be disposed of properly. Then there was the crankcase oil and batteries from nearly 100 abandoned cars. In addition, crews had to remove asbestos from 30 buildings before they could be demolished.

THE FINAL SOLUTION to Times Beach's 20-year-old dioxin problem will come when Pendergrass gets the go-ahead to build an incinerator there. The incinerator will burn the dioxin-contaminated soil from all 27 sites, and the sterile, non-hazardous ash will be put to beneficial use as backfill at the Times Beach site. Construction of the incinerator could be completed by late September — providing a permit is granted. But until the dioxin-contaminated soil is destroyed, it will continue to pose a threat. "Incineration is the only real solution," Pendergrass says.

The incinerator is a point of controversy in the St. Louis area. "People are concerned about the incinerator, but the risks of an incineration process are far less of a threat than leaving these materials out in the community," Pendergrass says. "If they can be destroyed safely, it's to everyone's benefit to do that.

"I understand how people feel. No one wants any type of incinerator in their back yard. I think the greatest fear they have is that once the incinerator is constructed that it will be there forever. Nothing could be further from the truth. That has never been in the cards. The incinerator is intended to solve the problem and then leave."

The incinerator must operate under rigid air-quality standards. As a performance test, "We have to demonstrate that the incinerator will destroy 99.9999 percent of two chemicals (1,2,4-trichlorobenzene and hexachloroethane) that are harder to destroy than dioxin," Pendergrass says.

Once that test is passed, EPA will monitor a safety test of the incinerator using the actual dioxin-contaminated material. "We will have to demonstrate that we can operate at a safe level of emissions," he says.

Contaminated soil has been removed from Times Beach's roadways and moved to a storage facility inside a levee where the incinerator will be located. Once the

incinerator is running, the EPA will deliver dioxin-contaminated materials and soils from the other 26 dioxin sites in Missouri for incineration. If all goes well, full-scale burning will begin in late 1995 and be completed in less than one year.

Although it may seem odd, Pendergrass admits he has enjoyed the challenges of this project. "I got into the environmental business because I wanted to solve problems," he says. "I'm an environmentalist and I've received a lot of satisfaction from what I've been able to accomplish with this project."

As coordinator, he not only oversees the completion of the dioxin cleanup details, as outlined in thousands of pages of documents, but he also handles public relations and community relations. He schedules public meetings, answers questions from the public and the news media, arranges for site photographs documenting the progress and attends public hearings about the case. He is the "go-to" person for nearly everything dealing with the project.

He wants to get the facts out about dioxin and Times Beach. "People fear the unknown and what they don't understand," he says. "I'm trying to take the mystery out of this project."

TODAY, TIMES BEACH, with its new saplings and lush green grass, looks more like a golf course than a hazardous waste site. Once the dioxin-contaminated materials are destroyed, the site of the former community will be turned over to the Missouri Department of Natural Resources. Times Beach will then become a state park with hiking and walking trails.

"I'm looking forward to that day," Pendergrass says. ■

"...Delaying the eastern Missouri cleanup in the hope that effective alternative technologies will someday be developed is wishful thinking, and would only prolong and increase potential exposure to people living and working near the 27 sites."

—from an editorial by Gary Pendergrass in the Feb. 20, 1995 *St. Louis Post-Dispatch.*

Aerial view of the levee that will enclose the incinerator. The warehouse structure holds dioxin-contaminated soil that will be destroyed in the incinerator.

## The dioxin trail

### *Timetable of dioxin discovery*

**November-December 1969** — Hoffman-Taff leases a building in Verona, Mo., to NEPACCO. Syntex Agribusiness Inc. acquires the building from Hoffman-Taff.

**April 1970-January 1972** — NEPACCO produces hexachlorophene in Verona. The process creates dioxin as an unwanted byproduct.

**February 1971** — Russell Bliss, hired to dispose of NEPACCO's waste by Independent Petrochemical, picks up the first load of dioxin-contaminated oil.

**Early 1970s** — Bliss sprays 27 Eastern Missouri sites with dioxin-contaminated oil.

**August 1971** — The federal Centers for Disease Control (CDC) takes soil samples at Shenandoah Arena near Troy, Mo., at the request of the Missouri Division of Health.

**Summer 1972** — Bliss sprays Times Beach with dioxin-contaminated oil.

**July 1974** — The CDC identifies dioxin as the toxic substance in the 1971 samples taken from Shenandoah Stables.

**August 1974** — The CDC traces Shenandoah dioxin to NEPACCO's hexachlorophene production in Verona.

**November-December 1982** — The U.S. Environmental Protection Agency takes initial soil samples at Times Beach.

**December 1982** — Times Beach floods; residents are evacuated; the Missouri Division of Health and CDC advise residents not to return because of dioxin.

**February 1983** — EPA transfers $33 million under authority of CERCLA (the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as the Superfund law) to permanently relocate Times Beach residents and businesses.

**1985-present** — cleanup in progress. Story addresses specifics of this time period.

### *Future plans*

**September 1995** — Incinerator will be constructed at Times Beach.*

**November 1995** — Trial burn tests begin.

**March 1996** — Full-scale burning begins.**

**October 1996** — All soil and contaminated materials will have been burned.

**December 1996** — Incinerator will be dismantled.

**May 1997** — Times Beach will be turned over to Missouri DNR and become a state park.

*Providing incinerator permits are granted.

**Providing all emission tests are passed.

# UNDOING A L

*When Rachel Carson's* Silent Spring *first warned us of the environmental dangers of pollution in 1962, the message was overshadowed by more immediate concerns, such as the Cuban Missile Crisis and the threat of nuclear war. Now, three decades later, the specter of nuclear holocaust is less haunting, and we are better able to assess the environmental concerns that Carson first brought to bear on the nation's consciousness.*

*We now see that the threat of environmental degradation is real. Some of our nation's industries have left a legacy of pollution that we and our children must contend with.*

*Many UMR researchers, intrigued by environmental issues, have launched research projects to undo this legacy of pollution while searching for less environmentally damaging ways of sustaining our standard of living. The stories that follow are merely a sampling of the environmental research efforts under way at Rolla. The list is by no means comprehensive, but it illustrates the broadness of the work being done at UMR.*

## ASSESSING THE RISKS OF OLD COAL-GAS PLANTS

A century ago, coal gas lit up the streets of many Missouri towns. Though the coal lights are long gone, waste from coal gasification plants continues to pollute these communities. For the past three years, geological engineering Professor Allen W. Hatheway has studied the sites of more than 50 old coal gasification plants in Missouri to determine the extent of damage. "Typically, you find some form of groundwater contamination at these former manufactured gas plants, making them potentially as damaging to the environment as most other uncontrolled hazardous waste sites," he says.

Hatheway and several geological engineering students are following the Missouri Department of Natural Resources and the U.S. Environmental Protection Agency in their efforts to oversee the first cleanup of a Missouri gas plant, the former Columbia Gas Light and Coke Co.

Coal gasification technology, which led to the development of manufactured gas plants, arrived in Missouri in 1847 at St. Louis, Hatheway says. By 1900, some 40 gas works illuminated many northern and western Missouri coal belt towns as well as the cities of St. Louis, Kansas City, Jefferson City, Columbia, Hannibal and Cape Girardeau.

With the advent of cheaper and cleaner natural gas, coal-gas works were shut down. "When natural gas pipelines were introduced to Missouri in the 1930s, few of the original gas plants survived, and all had ceased routine operation by 1955," Hatheway says.

What the plants left behind, however, was a mess. The older plants typically disposed of coal-tar residuals and emulsions in on-site "tar wells" or into nearby drainage ditches, Hatheway says. "These harmful residuals often leaked directly into sewers and into the environment at unpredictable locations below the sites," he says. Many of the former contaminants, however, have evaporated over the decades since their disposal.

DAN SUPERSTONE HOUSE PHOTOGRAPHY

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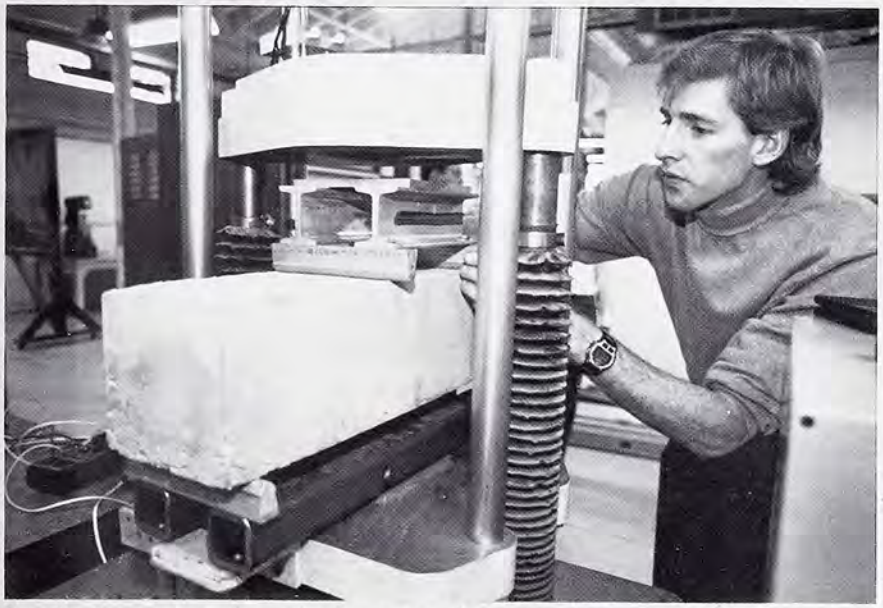
# LEGACY of environmental pollution



DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

*Russ Reed prepares to place a load on a concrete block during research being conducted by a student team investigating ways to use recycled plastics to reinforce concrete.*

Modern environmental engineering techniques can make most of the abandoned sites relatively harmless, Hatheway adds.

## WALKING ON PLASTIC

One way to keep plastic waste out of landfills may be to put it under our feet. That's the approach being taken by Douglas Carroll, PhD EM'91, and four UMR undergraduate students.

Last fall, Carroll and his team added fibers of recycled plastic to concrete in hopes of finding a low-cost way to make concrete stronger. Concrete manufacturers already use a high-strength plastic fiber known as polypropylene in some of their concrete products, Carroll says. "The plastic fibers help keep the concrete from cracking," he says. But adding plastic to the mix also increases the cost. Carroll thinks that manufacturers could lower costs by using unsorted recycled plastics—milk jugs, soda bottles, bags and other plastic products—instead of polypropylene. The mix would also be stronger than regular concrete, Carroll says.

Carroll's undergraduate students, funded through UMR's Opportunities for the Undergraduate Research Experience program, tested this theory last fall by shredding recycled soda bottles, milk jugs, plastic bags and other recycled plastic and mixing the fibers in concrete. They added about 1 1/2 pounds of the plastic for every cubic yard of concrete—the same ratio of polypropylene most commonly used by concrete manufacturers. They cured the bricks for 28 days, then tested them for strength and toughness. The tests showed that the recycled plastic fibers increase the toughness of the concrete by about 25 percent, Carroll says.

## GETTING THE LEAD OUT

Along the borders of eastern Oklahoma, southeastern Kansas and western Missouri—a region once called "the tri-state lead-zinc area"—lie dozens of abandoned smelters, some of which are more than a century old. More than 500,000 tons of hazardous mineral waste contaminates these smelter sites. Cleaning up this mess is a challenge being taken on by UMR metallurgical engineers.

A method is close at hand, but the cost of cleanup could be staggering—perhaps billions of dollars—according to metallurgical engineering Professor David G. Robertson, director of UMR's Center for Pyrometallurgy. Robertson is heading a three-year, $210,000 research project for the U.S. Bureau of Mines to clean up the old smelters.

Robertson and his colleagues are using a method developed by the Bureau of Mines' Rolla Research Center to reduce the amounts of heavy metals in those piles. According to Robertson, the key to treating the waste lies in removing the carbon—mostly unburned coal that comprises up to 30 percent of the waste. "Once the carbon is removed, the waste is much like other slag-type materials that could be processed physically, chemically, thermally, or by a combination of those," he says.

In the laboratory, the UMR researchers are smelting the waste by adding it to a "slag bath" that is heated by burning the separated coal. "This is done to flush out harmful lead and zinc vapors from the waste," Robertson says. The lead and zinc are then recovered as a dust that can be recycled. "Our goal," Robertson adds, "is to produce a slag that is so low in lead and zinc it can be classified as nonhazardous."

The researchers also hope to determine the cost of carrying out that process on a large scale. "Cleaning up all such waste piles across the U.S. may cost as much as $8 billion," Robertson says. "This research will produce the information required to realistically assess the costs versus benefits of this particular environmental cleanup."

Working with Robertson are Arthur E. Morris, a professor emeritus of metallurgical engineering, Lloyd R. Nelson, PhD MetE'94, and MetE graduate students K. Narayanaswamy and Dhiren Panda. ➢

## MAKING GLASS "LOGS" OUT OF NUCLEAR WASTE

Delbert E. Day, CerE'58, has discovered ways to use glass in everything from asphalt to the treatment of liver cancer. Now he's developing an iron phosphate glass to dispose of nuclear waste.

Day, a Curators' Professor of ceramic engineering and senior research investigator in UMR's Graduate Center for Materials Research, is leading the effort to develop glass "logs" to safely dispose of nuclear waste. Through a process known as vitrification, radioactive waste is combined with a non-radioactive base material to form a glass that immobilizes the waste.

"That glass could have the potential to be used with certain types of nuclear waste," Day says. "The glass container can then be stored in a repository for thousands of years, with little or no chance of the radioactive materials escaping into the environment.

"Our ultimate goal is to develop glasses that can contain large amounts of specialized nuclear wastes and that are environmentally safe to use."

Day's research is funded by the Pacific Northwest Laboratories in Hanford, Wash., and by Westinghouse Savannah River in Savannah, Ga.

Anabaena Cylindrica, *seen at 3500X, is one of the waste-eating microorganisms*

## ATTACK OF THE KILLER MICROBES

Daniel Forciniti has found some microscopic bugs that like heavy metal, but they're not into rock'n'roll. Rather, they're into ingesting lead and cadmium.

These bugs may take a bite out of pollution and lead to a better way to treat wastewater, says Forciniti, an assistant professor of chemical engineering. He is experimenting with two kinds of microorganisms that thrive in environments where toxic levels of lead and cadmium exist. These microbes ingest the metals, or in some cases the metals attach to the bugs.

Forciniti is studying ways to use the creatures to treat wastewater from mining or manufacturing operations that use lead. This is especially important for residents of Missouri's lead belt, which is the nation's largest producer of lead. The microbes could also be used to reduce cadmium—which is used to make batteries and in electroplating operations—in wastewater.

"We want to be able to create a technology that people can reproduce," he says. The two microbes Forciniti is studying are inexpensive, and so is the method of growing them. Plus—heavy metals aside—they don't eat much, so they're easy on the grocery bill.

Forciniti hopes his work will lead to the development of a "bio-reactor" that would use microbes to filter the toxic metals out of wastewater during the treatment process. "We could immobilize these microorganisms in some sort of support—for example, attach them to glass beads or even sand—and build a bio-reactor" to treat wastewater, Forciniti says.

The use of microbes in such a treatment system would trap the harmful metals in a small volume, and the metals could then be disposed of through incineration. "Instead of polluting one million gallons of water with lead or cadmium, you would have only 50 gallons," Forciniti says. "You reduce the size of the problem."

One of the microbes—called pseudomonas aeruginosa—"seems to be resistant to the toxic effects of the metals," Forciniti says. "It can grow in the presence of these metals and can accumulate these metals both externally and internally."

In addition, Forciniti is studying common blue-green algae, which also handles lead and cadmium well.

*PRIME TIME:*

## OZONE-SAFE COATING

The amount of ozone-depleting solvents in paints and primers will drop significantly if a water-based primer being developed by a UMR chemist catches on. "We're trying to make paint as harmless as possible," says Michael Van De Mark, an associate professor of chemistry and director of UMR's Coatings Institute.

The use of such primers will be important in areas where Clean Air Act standards have not been met, Van De Mark says. To meet those standards, companies "are going to have to reduce their use of solvents, and paints and primers are often targets," he says.

With Van De Mark's coating, water will replace most of the ozone-depleting solvents, which allow paints and primers to flow smoothly. "In the past we've used solvents such as xylene, toluene and some alcohols, but with this primer we want to use water as the carrier instead of a solvent," Van De Mark says. "The primer is similar to latex paint, but it's more high-tech. It must adhere to higher performance standards, such as stopping corrosion, while remaining flexible and resisting impacts."

Van De Mark's goal is to reduce the amount of smog-producing volatile organic compounds (VOCs) to less than 150 grams per liter of paint or primer. The current VOC limit is 340 grams per liter.

The water-based primer research is being funded through a $32,000 grant from UMR's Center for Environmental Science and Technology. "CEST members think it's important because if one can develop the proper technology to apply to aircraft coatings, modifications can be made for other coatings, such as aluminum can coatings," Van De Mark says.

Van De Mark's research is at the forefront of a national trend to reduce VOCs in the coatings industry. "In recent years, we've reduced the amount of solvents and we keep reducing it," he says. "It's technically challenging. I see it as a chance to improve the coatings industry and make it a better industry in terms of protecting people's health and the environment's well-being."

## WASH THAT WASTE AWAY

While some researchers are focusing on new ways to store hazardous materials, one UMR professor is designing a method to get the stuff out of the leaky containers that now store it.

David A. Summers, Curators' Professor of mining engineering, and his colleagues in UMR's High Pressure Waterjet Laboratory are designing waterjet equipment to remove radioactive waste from leaky containers so it can be treated and stored more safely. Working for the Department of Energy, the waterjet team is testing a multijet rotating cutting and extraction assembly. The waterjet uses very little water to remove waste from damaged containers, and it recovers what water it does use to avoid adding much to the volume of waste removed.

DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

GREEN BEER:

## IT'S NOT JUST FOR ST. PAT'S ANYMORE

When you think of beer, and green, and Rolla, only one thing can come to mind: St. Pat's. Well, think again. UMR professors, instead of making green beer, are making beer green, as in "environmentally friendly."

They're doing it by experimenting with rice hulls—a waste product in many beer-making operations—as filters in the brewing process. Rice is a key ingredient in the beer-making business, but companies like Anheuser-Busch have wondered what to do with all the leftover rice hulls. Anheuser-Busch, a corporate member of UMR's Center for Environmental Science and Technology, approached UMR with the question, and now researchers are using those hulls as filters.

Most breweries use activated carbon derived from charred coconut shells to filter impurities from beer, says mechanical engineering Professor Virgil J. Flanigan, ME'60. UMR laboratory tests of charred rice hulls found that they filter impurities from beer as well as the activated carbon, Flanigan says. And because rice hulls are a byproduct of the brewing process, they are readily available to breweries, Flanigan adds.

"The fixed carbon of rice hulls is very porous and perfect for filtering out organic impurities," says Flanigan. "And since they're already stockpiled, it's a very affordable alternative to the coconut shells."

The researchers first tried to use the hulls as filters to treat wastewater, says William J. James, professor emeritus of chemistry and director of CEST. But that experiment went flat, so they decided to char the hulls and test them on the beer. Lab tests show the rice hull product could also be used as a filter to treat the water supply used in brewing, James says.

ALL'S WELL

## TESTING THE SAFETY OF OILFIELD INJECTION WELLS

For every gallon of oil pumped out of the ground, 20 gallons of salty water comes up. That water must be returned to the oil field, via injection wells, to help maintain pressure underground and keep the oil flowing toward the surface. But in recent years regulators have been concerned that the brine might affect the quality of underground drinking water if the two ever mix. "One gallon of brine has the possibility of contaminating thousands of gallons of fresh water," says Don L. Warner, dean emeritus of the UMR School of Mines and Metallurgy and professor emeritus of geological engineering.

It is for this reason that in 1980 the U.S. Environmental Protection Agency began having oil companies conduct studies of newly constructed injection wells to ensure that they wouldn't pose a threat to underground sources of drinking water. These "area-of-review" studies, or AORs, were required under provisions of the Safe Drinking Water Act of 1974.

The cost of a typical AOR is $2,500 per well. That's a small expense for a few wells, but the petroleum industry is concerned that these regulations could be expanded to include injection wells built before 1980. If that happens, then conducting a well-by-well analysis of the estimated 100,000 wells built before 1980 could prove quite expensive. So a few years ago the petroleum industry decided to look for a less costly approach.

In 1990 a team from UMR won an American Petroleum Institute contract to find a way to determine, on a broad scale, the potential risks of injection wells to groundwater.

The UMR team, led by Warner, has developed a method that consists of five approaches for determining whether an area can be exempt from well-by-well AOR studies. One step calls for an evaluation of an area's hydrogeology. If no underground source of drinking water is present, then there is no need for an AOR study. Other methods of evaluation are more complex. One such method involves determining whether a petroleum reservoir has enough pressure to cause brine to flow into an underground drinking water source. If not, then AORs aren't required.

The research so far shows that older injection wells pose little risk to underground drinking water sources. "What we're doing is showing that if there is a risk, it is a very small risk," Warner says.

The team has tested the approach in the San Juan Basin of New Mexico, one of the largest oil-producing areas of the United States, and found that 20 of the 24 large oil fields they investigated would not require well-by-well AORs. More recently, they applied their method to the Permian Basin of West Texas—the largest on-shore oil-producing area in the United States and the site of some 30,000 injection wells—and again found that the wells did not pose a threat to drinking water. That project also was funded by the API, which has supported the UMR project with a total of $950,000. Now the U.S. Department of Energy is joining the effort, providing an additional $500,000 to study the legendary East Texas oil field, which has produced more oil than any other field in the continental United States. The researchers also are considering studies of oil fields in the entire states of California, Kansas and Oklahoma.

According to Warner, UMR's multidisciplinary approach caught API's interest. UMR's four-person team includes one geological engineer (Warner), one geologist—Robert C. Laudon, associate professor of geology and geophysics—and two petroleum engineers, Shari Dunn-Norman, assistant professor of petroleum engineering, and Leonard F. Koederitz, ChE'68, Distinguished Teaching Professor and head of petroleum engineering.

"We have a great blend of experts on our team," Warner says. "The research sponsors haven't found any university or other research group that has a better resource for this work than we have." ■

# A DROP IN THE BUCKET

## UMR alumnus forms partnership to aid developing countries

**by Dick Hatfield**

Like many Americans, **Gary J. White** was more or less indifferent toward the poor living conditions of people in developing countries. But a 1984 trip to Guatemala changed the way he looked at things.

"I saw the water problems the people were having, and that really brought it home to me," says White, CE'85. "I saw sewage flowing on the streets from shacks, and I saw children playing in that sewage. I saw animals drinking from the same streams that people were getting their drinking water from."

Few Americans realize that unsafe drinking water is the biggest health problem in the world, White says. But about 10 million people—most of them children under the age of 5—die each year from disease borne of unsafe drinking water, inadequate water supplies and poor sanitation.

*White (left) with an engineer and technicians from Aqua del Pueblo, a Guatemalan organization that works with communities to establish safe water supplies.*

"We take water for granted" in the United States, White says, "but there are millions of people who die each year due to diseases caused by unsafe water supplies. This crisis accounts for 80 percent of all sickness and kills far more people than famine."

That eye-opening experience in Guatemala led White on a campaign to raise awareness in the United States of the water-related problems of people in developing nations. "That trip," he says, "made me decide what I wanted to do with my degree from Rolla.

"There are at least another billion people out there who need assistance with safe drinking water," White says.

Even before graduation, White was using his engineering know-how to make life better for others. As a student he founded SENITA, the Student Engineering Network for International Technical Assistance. Through this group he organized the trip to Guatemala to help construct a training center for an aid organization there. After graduation he joined the Catholic Relief Service to oversee water and sanitation projects in Latin America and the Caribbean. Then after a brief stint with $CH_2M$ Hill, an environmental engineering consulting firm, White co-founded his own aid organization, WaterPartners International.

White is executive director of WaterPartners, which is based in Chapel Hill, N.C. He and co-founder Marla E. Smith created the non-profit organization in 1990 to help developing countries build the infrastructure needed to improve their water and sewage systems.

WaterPartners first project was to build a gravity-fed water supply system for El Limon, Honduras. The organization now works on similar projects with eight communities in Guatemala and Honduras.

The approach, as the name WaterPartners implies, involves building partnerships with the beneficiary communities. The people in the communities invest a portion of the cost of a water system—typically between $15,000 and $20,000—as well as all of the labor required to build it.

"We want to work with only those partner organizations who can prove that they are serious about doing it," White says. "The communities must make a cash investment, covering part of the costs of the project. We make sure that each household pays a user fee-type payment so that money will be available for future maintenance."

Along with raising funds, White wants to raise awareness in this country of the needs of other nations. "We hope to educate Americans about the overwhelming problems caused by unsafe water and sanitation in the developing world," he says. "It is disturbing to see people, especially children, with such water related diseases as cholera, typhoid and dysentery, all of which have long since been conquered in the United States."

*Old and new: (top) the traditional source of water for El Limon, Honduras was replaced by a newer system. (bottom) A new water system is completed for a family in Sosoal, Honduras. Every household in this community will build this "pila"—or outdoor wash basin—as part of their water project.*

That is why when WaterPartners employees visit the communities each year to monitor the projects, they take cameras along with them. Their slides are shown at fund-raising events. "We are also trying to get people from the U.S. to visit these needy countries and to see for themselves the magnitude of this problem," White says.

WaterPartners' fund-raising efforts have so far focused on charity dinners, with proceeds from each going to help a different community in a developing country. Through a series of dinners in Kansas City and Chapel Hill, White's group has raised about $85,000 to support these global water quality efforts. But that amount is a mere drop in the bucket when measured against the staggering needs. ■

If you would like more information, contact: WaterPartners International
Phone/FAX (919) 929-1820 • Email: waterprtnr@aol.com

# ALUMNI NEWS

## Association News
## Alumni Notes
## Section News

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# COMMITTEES

*Committees are where the work of the MSM-UMR Alumni Association is conducted. Members of the board of directors serve on at least one committee, and other alumni are recruited to serve on committees as well, to represent the alumni body. Here's a brief explanation of what committees are active and what they do. Please contact the committee chair if you have something to suggest to a particular committee (you can find their phone numbers and addresses on the inside front cover).*


### ALUMNI AWARDS
JOE MOONEY

Nominates alumni and friends of the campus to be recognized or honored by the alumni association. This recognition includes, but is not limited to, honoring individuals for outstanding personal achievement and service to UMR and the MSM-UMR Alumni Association. Some of the awards currently given by the association are the Alumni Achievement, Alumni Merit and Alumni Service awards; the Honorary Life Membership; the Presidential Alumni Service Citation; Outstanding Student Advisor awards and the Distinguished Teaching award. This committee also establishes suitable recognition items for award recipients.

### ATHLETIC STUDY *GENE EDWARDS*

Responsible for obtaining information and advising the board of directors of the needs and problems of intercollegiate athletics. The committee then plans and develops recommendations concerning these needs and problems and possible assistance from association members.

### COMMUNICATIONS
*ART BAEBLER*

Responsible for the planning and evaluation of the association's communications program, including publication of the quarterly publication *MSM Alumnus*, the Alumni Directory and other communications used to promote the association's programs. This committee's duties include working with staff in recommending programs and individuals to be emphasized in the *MSM Alumnus* and other communication vehicles, evaluating publications and making suggestions for improvements, and reviewing policies and procedures relating to publications and making appropriate recommendations to the board for changes in such policies and procedures.

### FACULTY & PROGRAM PLANNING
*RANDY KERNS*

Develops programs to involve alumni with faculty, students and other alumni in the academic and social life of the campus and to evaluate the effectiveness of such programs. The following programs are currently active: Alumni Speakers Bureau, affinity credit card, alumni cruises and foreign tours, alumni merchandise (rings, pendants, watches, etc.), UMR license plate, bookstore order form in *MSM Alumnus*, and distribution of Old *Rollamo* yearbooks. This committee is considering many other programs to benefit alumni, and is working to help alumni communicate with each other electronically.

### ANNUAL FUND *DENNIS JAGGI*

Responsible for the planning, execution and evaluation of the association's annual fund raising campaign. Establishes appropriate donor clubs and implements a program of service and recognition for those club members. The income from the campaign will be used to provide gifts to the campus and for needed operating expenses of the organization.

### JACKLING FUND *RICHARD HUNT*

Reviews income and expenditures of this campus fund and reports on such to the board at each meeting. This is in accordance with the wishes of the donor in his will.

### FINANCE
*GRAHAM SUTHERLAND*

Deals with matters relating to the fiscal integrity of the organization including budgeting, investments, physical properties and monthly financial statements.

### LEGISLATIVE & INTER CAMPUS
*CAL OCHS*

Communicates with public officials about UMR programs and needs. This is accomplished mainly through the efforts of the Public Resource Ambassadors group, along with the following duties:

- Study, inform membership, and generate grass-roots support for—or opposition to—specific legislation affecting higher education in general, and UMR specifically.
- Study and recommend a program aimed at encouraging UMR supporters to inform their employers or the general public on key legislative issues.
- Confer with legislators on legislative matters affecting the University.

# THE HEART OF YOUR ALUMNI ASSOCIATION

• Study and arrange for inter-association cooperative efforts on certain legislative matters.

• Encourage association members to arrange visits with governmental officials (state legislators, city council members, county officers, members of congress, state executive branch members) to become better acquainted with them and to discuss issues affecting the University.

• Study and inform alumni about voting records of state legislators and members of Congress.

• Study and inform membership on administrative actions or rulings and court decisions affecting UMR.

### NOMINATIONS *BOB PATTERSON*

Recruits, orients, motivates and evaluates board of directors members and officers of the association. Study the composition of the board including academic departmental background, geographic location, age, sex and ethnic origin, having in mind future selections that will provide an optimum breadth of talents, skills and capacity to assume all aspects of the Association's success. Nominate for board service each year those individuals that have a contribution to make to the association, and have demonstrated commitment to the organization through financial contribution to the association the preceding two years prior to election to the board.

### STUDENT FINANCIAL AID *MIKE FERRETTI*

Plan and evaluate the association's financial support of students, including recommending to the board each year types of student financial aid and amount of grants to be given to students; evaluating aid given in preceding year and recommending changes; reviewing policies and procedures relating to student financial aid and making appropriate recommendations to the board for changes in such policies and procedures.


### REUNIONS

*JIM VAN BUREN*

Plan, execute and evaluate class reunions. This includes the following duties:

• Identify volunteer alumni to serve as Class Coordinators for each class and involve them in planning and executing class reunions at Homecoming.

• Work with association staff to plan and execute reunions for classes graduating 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 or more years ago at Homecoming each fall.

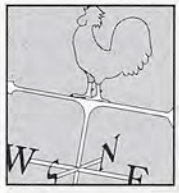
• Work with association staff to plan and execute a special reunion for the class graduating 25 years ago at Homecoming each fall.

• Review 50-year class reunion at commencement each spring and recommend revisions of program.

• Establish suitable recognition items for 25- and 50-year reunion classes.

### SECTIONS

*CURT KILLINGER*




Obtain information and advice in matters relating to operations and development of geographical, corporate and special interest subgroups (sections) of the association. This committee also coordinates the Outstanding Section Award. Also responsible for training section leaders and coordinating the sharing of ideas among sections.

### STUDENT RECRUITMENT

*CHRISTA DEGONIA ANDREW*

Plan, execute and evaluate the association's student recruitment program, through the following duties:

• Work with UMR campus recruiting services office in acquiring alumni to serve as admissions ambassadors.

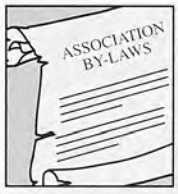
• Recommend to recruiting services techniques to make alumni more effective in recruiting prospective UMR students.

• Acquaint board and membership with current quality academic programs being offered at UMR and aspects of the campus that help in the student recruitment process.

• Inform board of success of student recruitment effort at UMR.

• Develop programs through the association to assist in making prospective students a part of the university family.

• Evaluate current programs and make suggestions for improvement.




### CONSTITUTION & BYLAWS

*CRAIG O'DEAR*

Reviews the constitution and bylaws on a regular basis to assure that they are in accordance with University, State of Missouri and federal rules and regulations as a not-for-profit corporation.

### STUDENT RELATIONS & ORIENTATION TO ASSOCIATION *DARLENE RAMSAY*

Plan, execute and evaluate a program to involve students with the organization and acquaint them with alumni efforts to aid and work with them to make UMR a better institution.


Dear fellow alumni,

As your new president, I have accepted the challenge of making the MSM-UMR Alumni Association a stronger, more successful organization. I know this will require much from me, but in order to truly meet the challenge, we will need the help of each one of you.

We, as volunteers who care about the MSM-UMR Alumni Association, will have to put time and effort into our association, as well as making a financial contribution. Fortunately, there are many among you who are dedicated to the association, and who are already making a strong commitment in "time and talent" as well as "treasure." Some who come immediately to mind are the following outstanding individuals:

- Hans Schmoldt, who spearheaded the Class of '44 in their formation of the Ike Edwards Scholarship Fund
- Dennis Jaggi, who as head of the Annual Fund Committee implemented a new donor recognition plaque program
- Bob Saxer, who was the first to start holding receptions for prospective students, and who continues to serve actively as an Admissions Ambassador
- Cal Ochs, who heads up the legislative contact effort in Missouri, prompting the governor and the legislature to provide increased support to the campus

There are hundreds of other alumni who are also working to further the goals of the association—volunteering as Class Coordinators, Admissions Ambassadors, Public Resource Ambassadors, section leaders, committee chairmen and serving on the board of directors. It will take the efforts of these alumni and many more to keep the association strong. We encourage you to be a part of this effort by being active in the association in whatever way you can, from attending section meetings and making your contribution to the Annual Fund to support the association's programs to serving on the board of directors.

We are very fortunate to have an alumni association that exists as a separate, non-profit organization, dedicated to the support of UMR and its students. By giving your time, effort and financial support to the MSM-UMR Alumni Association as well as to your department or other area of campus, you can help the association play an ever-increasing role in the continual improvement of your alma mater.

Sincerely,

Gerald L. Stevenson '59
President

## Attention Civil Engineering Alumni!

Make plans now to attend the

### Third Annual Civil Engineering Spring Alumni Event

April 20-22, 1995

Activities include:
Campus tours and classroom visits
panel discussions
research demonstrations
golf scrambles
student/alumni/faculty barbeque and cocktails
For more information
or to register for the event please call:

Charlena Ousley, 314-341-4470

**Do you know a student who should attend UMR? Call Jennifer Bayless at 1-800-522-0938 —she'll send them information!**

The MSM-UMR Alumni Association offers the following benefits to its members:

- Travel tours (Ireland and Switzerland/Black Forest this fall)
- MSM-UMR rings
- MSM-UMR pendants
- MSM-UMR watches
- UMR license plates, for Missouri residents
- affinity credit card

For further information on these benefits, please contact the Alumni Office at (314) 341-4145.

fun!" ■ **Arthur W. Retzel** is feeling great after having successfully made it through by-pass surgery. Arthur writes, "Hopefully, I'll make 'H/C' next year. Last time (1993) I missed my 'real pals,' who no longer attend."

### 1942

■ **Herbert E. Pagel**, MinE, writes that the Geo M. Meriwether Corp. went out of business in September 1994. Herbert was a vice president and part owner of the corporation. ■ **Charles E. Zanzie**, EE, went to St. Louis in August 1994 to visit **L. J. "Jim" Grimm**, ME. "A memorable occasion." Charles and his wife Meg also made a trip to St. Augustine, Fla., in November 1994. He writes, "It is a very fine city and displays many relics, some as old as 300 years." ■ **Harry W. Buckner**, ME, just observed his 19th retirement anniversary. Harry writes, "I am busy with water concerns; director of Helix Water District, director of San Diego County Water Authority, president of ACWA-JPIA. ACWA-JPIA is the joint powers authority of Calif. Water Agencies that supplies insurance for 400 water districts." ■ **Thomas A. Jones**, MinE, and Evelyn Claire celebrated their golden wedding anniversary on Oct. 27, 1994.

### 1943

■ **Gene S. Martin**, EE, has spent the last 18 months in London, England. Gene has been serving on a family history mission for the Church of Jesus Christ of the Latter Day Saints and will be returning in March 1995. ■ **E.H. Barnett**, ChE, writes, "I have opened a consultancy to offer my knowledge of how to improve processes for yield and profitability as I did for Monsanto for some years." ■ **Jack E. Fleischli**, ME, and Sue spent July and August traveling the inland waterway from Moscow to St. Petersburg. In April 1995 they will be in Japan and Korea on business and in May they will be in Australia and New Zealand. Jack writes, "My son, Michael, is a sales engineer for Omron Electronics. My daughter, Gretchen, graduates in May 1995 from Oklahoma University. Number one son, Jackie, is an attorney and number one daughter, Karen, is a mother of three, her oldest is a freshman at KU."

### 1944

■ **Fred H. Drewing**, EE, writes, "The class year 1944 50th reunion was fantastic. No one should miss it." ■ **Hans Schmoldt**, ChE, was awarded the Sigma Pi Founder's Award in 1994, only the second time that such an honor has been bestowed upon an Alpha Iota chapter alumnus. This award is presented to an alumnus making outstanding contributions or rendering exceptional service to Sigma Pi or the fraternity system, in business, a profession or education.


May 11-13, 1995 ♣ Rolla, Missouri

## Policy for Publication of Alumni Notes in the *MSM Alumnus*

- We are happy to announce weddings, births and promotions, after they have occurred.
- We will mention a spouse's name if it is specifically mentioned in the information provided by the alumnus.
- The *MSM Alumnus* will announce deaths if information is submitted by an immediate family member, or from a newspaper obituary.
- We will print addresses if specifically requested to do so by the alumnus submitting the note.
- We reserve the right to edit alumni notes to meet space requirements.
- We will use submitted photos only as space permits.

### 1946

■ **Raymond B. Jones**, CerE, still does some consulting. "My last job was in South Korea on a borosilicate glass smelter. My daughter has joined the company and does a lot of sales work."

### 1947

■ **Robert F. Bruns**, ME, writes, "I am enjoying retired life on a barrier island in southwest Florida."

### 1948

■ **Harold G. Moe**, CE, "had another eye operation in September. The results appear better than the first one." ■ **James R. Whanger**, MetE, has been retired from Hughes Tool for seven years. He is enjoying it and writes, "I was lucky to get a full dose of steel and powder metallurgy, but after 40 years in a technical field it was time for a change. Now most of my activities center around nature photography and travel trailering. I put on programs from my photos and it is a privilege to show people the wonders of our world."

### 1949

■ **Gordon L. Carpenter**, ME, is living in Huntington Beach, Ca., with his wife Elnora and having the time of his life going on vacations. They just returned from a trip "through the Panama Canal and to South America." Gordon is currently working on the third revision to the electrical design textbook for electrical engineering students. ■ **Gordon Raymer**, CE, is enjoying retirement. Gordon writes, "I do a little math tutoring at Northwest Indian School of Tacoma to slow down brain-rust! After nine years of stubborn pursuit, my golf is in the 80's. Nine more years and I'll have it in the 70's!" ■ **John E. Stein**, PetE, and Dorothy enjoyed a 28 day cruise where they visited Thailand, Malaysia, India, Jerusalem, Cyprus, and Greece! John writes, "We still live in Denver and enjoy the Rocky Mountains and the good life." ■ **Charles A. Bottermuller**, CE, writes, "I have a new granddaughter - born on May 26, 1994."

## *Fifties*

### 1950

■ **Clark H. Benson**, CE, remembers, "**Harry Bolon** (CE'29) and I helped a lot of people at the 1953 flood of the Missouri River at Kansas City. We waded through 12 miles of overflow to measure the flow. We also helped the people of Kansas City move up to higher ground." ■ **Frank S. Greene**, ChE, writes, "Since retiring in 1982 from Armco Inc., my wife, Dorothy, and I have been operating our Christmas Tree farm. We travel in the winter months and enjoy our large family." ■ **Edward P. Kyburz**, MinE, and his wife, Georgina, toured historic homes and gardens in Scotland, Northern England and Wales during the summer of 1994 and visited family members in Switzerland, Vermont and New York. They are enjoying retirement. ■ **Harry B. O'Dell**, CE, and Sibyl visited with **Bob Sanders**, EE, and Crystal in Memphis in 1994, and Bob and Crystal visited the O'Dells in Texas in January 1995. ■ **William A. Spencer**, ME, writes, "I retired 10 1/2 years ago and I am still hanging in there." ■ **John M. Vance**, ME, writes, "Enjoying retirement, some travel and time with the grandchildren. I still have relatives in Rolla and enjoy visiting there." ■ **Joseph E. Hallemann**, EE, and Mary celebrated their 40th wedding anniversary in Florissant, Mo. in 1994. In May he and Mary traveled to various places across the United States for pleasure and Army reunions. Joseph writes, "I found my teacher, Sister Mary Dorothy SSND, from third & fourth grades in Chatawa, Miss. It was good to see her & tell her thanks face to face after nearly 60 years." ■ **Mrs. Seymour Megeff**, widow of the late **Seymour Megeff**, MetE, writes that granddaughter Sherilyn Gould was born Aug. 28, 1994 at 8 pounds, 15 1/2 ounces. ■ **R. Norman Holme**, MetE, "came out of retirement to take position as chief metallurgist for Nottingham Co. of Atlanta, Ga." He is

# ALUMNI NOTES

involved with product development and technical service for mineral processing chemicals for the mining industry. ■ **Jack E. Guth**, CE, and wife Denise are living in Jerome, Ariz. Jack writes, "grand opening of our art gallery in Jerome, Ariz., on May 22, 1995." ■ **Mervin E. Shanafelt**, ME, is a project manager in the Machinery Technology Division for Westinghouse Electric Corp.

### 1951

■ **Antonio P. Ballestero**, CE, is retired and experienced major surgery in 1993. "On occasion my former employer will call on my services in the areas of highway design and remediation of hazardous waste sites. I maintain current P.E. registration in seven states. My hobby is dabbling in woodwork." ■ **Eugene J. Ertz**, MinE, retired in 1987 after 35 years of working for the State of Wisconsin. He enjoys a life of leisure in Eau Claire, Wis., with a winter home in Weslaco, Texas. ■ **Eugene P. Larson**, ME, and Ellen moved to Knoxville, Tenn., nearer to their four children. Gene had worked at the Paducah Gaseous Diffusion Plant for 40 1/2 years. ■ **Paul S. Pender**, ME, writes, "We have just finished a week's seminar on history at the Spring Arbor College of Michigan under the Elderhostel program. This marks Elderhostel number 17 for Evelyn and me." ■ **William M. Shepard**, GGph, finished his term as interim executive director of SME in March 1994. He plans to retire as executive director of the Minerals Exploration Coalition in the near future. ■ **Gerald N. Keller**, MinE, retired to Westwood Shore in July 1994 with a "location between 10th and 17th greens and lake." Gerald also writes, "Enjoying good health and fair golf. Added Meghan R. Keller to roster on December 8, 1994 in Topeka - Miner class of 2015?" ■ **Eugene F. Kolb**, ME, is working for Allied Signal and is approaching forty years of service. ■ **William S. Harper**, ChE, and wife Jane had a busy 1994. William writes, "Both of our mothers died. We took a trip to the Holy Land and Egypt." ■ **William A. Givens**, PetE, retired from Sonat Exploration Co. Nov. 1, 1994. He writes, "But I have a second career as a lead stable boy for a Morgan horse breeding operation to keep me off the street and out of the pool rooms!" ■ **Donald J. Dowling, Jr.**, ChE, has "moved west to the retirement community of Sun City West, Ariz., with wife Kathy - plenty of golf and sunshine." ■ **Lester W. Holcomb**, MinE, retired as president from Holcomb Foundation Engineering. Lester writes, "My son, **Tim Holcomb**, CE '79, is now president and CEO as of 1994." ■ **Ervin E. Dunn**, ME, "has buried the anchor in Amelia Island, Fla."

### 1952

■ **Leslie F. Holdman**, EE, writes, "Enjoying retirement playing golf and tennis. There are many college graduates living in Fairfield Bay, Ark., from all parts of the United States." ■ **Wayne Jackson**, MGeo, retired in 1993 after five years with the U.S. Bureau of Mines. He sends best wishes to his classmates. ■ **Forrest C. Mosley**, CE, is providing consulting services for the Lenoir Community Center, an addition to the community center in Columbia, Mo. ■ **Kenneth J. Whelan**, ME, has started his fourth year of retirement after 40 years with Union Electric and is enjoying every minute of it. ■ **Lee Bilheimer**, MinE, retired as vice president of construction from Teck Corp., Vancouver, B.C. in August 1994. He is currently a consultant in project management of new mine development. ■ **Ernest J. Reeves**, ChE, is "working part time for IRS when not fishing." ■ **Robert P. Schafer**, PetE, moved to his new home on his ranch 100 miles southwest of Dallas in Dec. 1993. He is still active in one exploration area - the Paris Basin in France. Robert writes, "My son, Phil, has a PhD in Math and teaches at the University of Texas in Austin. My daughter, Laurie, is a PetE and recently joined the staff at Nations Bank, Dallas. Laurie has two children."

### 1953

■ **James L. Knearem**, ME, is enjoying retirement in the north woods of Wisconsin with good fishing, yard work and golf. "Unfortunately, the golf game has not improved." ■ **Walker L. Flood**, ME, retired from General Motors in Sept. 1990. He and his wife Oma now live near Bland, Mo., which is near their three grandchildren. ■ **James Edward Akers**, Chem, and Meryl had their "first grandchild, Christopher, by way of **Jim, Jr.**, ChE '86 and his wife Donna. Jim, Jr., is employed by Ethyl Petroleum Additives at Sauget Ill. **William**, ME '92, is a sales engineer with Accurate Superior Scale in St. Louis."

### 1954

■ **Richard W. Gotsch**, CerE, will retire as corporate vice president of Witco and general manager of Allied-Kelite in early 1995. Richard writes, "The Witco Corp. has recently sold Allied-Kelite." ■ **Joseph F. Krispin**, CE, retired from J.S. Alberici Construction on June 28, 1994.

### 1955

■ **Paul B. Tucker**, ME, retired in May 1993 after 38 years with McDonnell Douglas Corporation. Paul writes, "Three of four of my children are engineers (the fourth is an MD). My career at McDonnell Douglas was interesting and challenging."

### 1956

■ **Charles L. Boyd**, ME, retired from Halliburton Services after 38 years in gas and liquid flow measurement. He holds nine U.S. patents in flow measurement. Charles will devote his time to collecting Mercedes Benz vintage models. ■ **Maurice E. Suhre Jr.**, EE, retired from TRW in January 1994. He is working on a degree in piano performance at Cal State Dominguez Hills.

### 1957

■ **Thomas E. Kalin**, ME, was appointed president and CEO of Black & Veatch Asia, with an office in Hong Kong. ■ **Clarence J. Vetter Jr.**, ChE, has retired after thirty-three years with Quantum Chemical Co. and is now living in St. Joseph, Mo. ■ **Frederick J. Dietrich**, EE, is living in Palo Alto, Ca., with wife Patricia and is doing well in the consulting business. He writes, "All daughters happily married - 6 grandchildren. Great vacation in Australia/New Zealand last spring." ■ **Arthur J. Koelling**, EE, is "enjoying all kinds of computer and CAD courses at DeAnza College in Cupertino, Ca."

### 1958

■ **Joseph R. Aid**, ChE, and Mary Ann Ogle were married and live in West Plains, Mo. ■ **Joe Mickes**, CE, was named chief engineer of the Missouri Highway and Transportation Department. ■ **Donald E. Modesitt**, CE, accepted a position with the Missouri Department of Natural Resources after serving 34 years in the UMR civil engineering department. His new position in Jefferson City is an environmental engineer III in the division of environmental quality. ■ **Charles R. Welch**, ME, will retire in 1995. He plans to do some consulting and to spend more time in Missouri at his home on the Lake of the Ozarks. ■ **R. Lary Miller**, MinE, "returned in June 1993 from four years in Lueshe, Zaire, as mine manager for Somikivu." In August 1994 he became General Manager of Operations for Quikrete and he is responsible for four operations. ■ **William B. Dye**, CE, retired Oct 1, 1994, and is living in Laguna Niguel, Calif. ■ **Richard H. Okenfuss**, ChE, "retired from Procter & Gamble Jan. 31, 1995. After 34.5 years." ■ **Ronald F. Vetter**, ChE, is retired and interested in contacting fellow alumni.

## DID YOU ATTEND MSM ON THE G.I. BILL?

We're looking for interesting stories about "G.I. Bill alumni" to feature in an upcoming issue of the *MSM Alumnus*, which will honor the 50th anniversary of the founding of this valuable program. If you are one of these alumni please let us know. Send us a note stating your name, graduation year, branch and years of military service, and any other information of interest.

Send it to: *GI Bill* c/o Kathy Fillmer, Publications Office
1201 State St., Room 105, University of Missouri-Rolla, Rolla, MO 65401

## 1959

■ **John G. Borman**, ME, is part-owner of the Louis Allis Co., a manufacturer of specialty electric motors and generators for mining, petrochemicals and other specialty affiliations. ■ **John L. Bronson**, EE, retired in December 1992. His hobbies include golf, building golf clubs and woodworking. ■ **Carl R. Schumacher**, CE, enjoyed visiting with friends and looking over the campus while at Homecoming 1994. His daughter, **Susan (Schumacher) James**, MetE'87, works for Allied Signal in Seattle, Wash.

# Sixties

## 1960

■ **David S. Jones**, CE, is working for the Summit Group Inc. They are a computer systems integration firm with over 150 professionals. The Summit Group "continues its strong growth." David writes, "Our fifth office, in Denver, will open in 1995. This will allow us to better serve our west coast clients." ■ **Anthony Del Prete, Jr.**, GGph, vacationed in Europe over the summer. The family visited Normandy and other World War II battlefields in Europe. Anthony writes, "It was a great thrill for my son Mike, who is 15 now." ■ **Gene L. Scofield**, ME, is the project engineer in seat belt systems for Vehicle Safety Systems Inc., which is a division of TRW Corp.. ■ **Risdon W. Hankinson**, ChE, is now a senior scientist involved in research and design. Hank writes, "Our only daughter married this past summer and our second son will receive a BSChE from the University of Okla. in May. We still have two boys at home." ■ **Lelia M. Flagg**, CE, announces that her son will graduate from UMR in May 1995.

## 1961

■ **Allen W. Meskan**, ME, writes that he "bowled my first 300 game and is on the professional bowlers Senior Tour." ■ **David M. Lewis**, ME, is currently working for Conoco in Lake Charles, La. David is the construction manager for the "$800 million Lube Oil Hydrocracker Project." He writes, "project completion and start-up scheduled for early 1997 for this multi-unit grass roots expansion." ■ **Robert E. Henderson**, ME, "retired from the Air Force civil service on Jan. 3, 1995." ■ **John L. Hodges**, ME, is vice president and general manager for Owens-Brockway Glass Containers as of March 1993. ■ **Jimmy D. Hahs**, CE, associate professor of technology for East Tennessee State University, received the Outstanding Teacher Award during a Recognition of Excellence ceremony for the college of applied science and technology. ■ **David F. Maune**, ME, has been mapping thousands of flooded homes on behalf of the Federal Emergency Management Agency, using the Global Positioning System, the Geographic Information Systems, laser range finders and digital cameras (no film; direct into the computer). ■ **Donald D. Myers**, ME, was elected chair-elect of Zone III of the American Society for Engineering Education. ■ **Bruce L. Stinchcomb**, GGph, has a paper published in the *Journal of Paleontology* on problematic groups of molecules. ■ **Roger C. Weber**, CE, retired in January 1994 as chief of programs for engineering for the U.S. Air Force Air Mobility Command. He accepted a new position with Sverdrup Corp. in St. Louis, Mo., as engineer manager for design and construction of the new Mid-America Airport in St. Clair County, Ill.

## 1962

■ **Bipin N. Doshi**, ChE, is president of Schafer Gear Works Inc., manufacturing gears for the industrial, automotive and aircraft industries. Bipin and Linda have two sons, Robert, a lieutenant in the U.S. Army, and Marc, a student at Wabash College in Indiana. Bipin writes, "Last week I flew over the campus at Rolla; it was wonderful to see that." ■ **Aaron M. Reuck**, CE, writes that his daughter, Tonya, is a civil engineering student who earned her bachelor's in mathematics from William Jewell College in Liberty, Mo.

## 1963

■ **Bill H. Reid**, CE, retired from the U.S. Public Health Service in 1989 and works as senior environmental engineer for the Cherokee Nation of Oklahoma in Tahlequah, Okla. ■ **Robert E. Markland**, CE, was appointed associate dean of the School of Business Administration at the University of South Carolina in Sept. 1994. ■ **Shafique Naiyer**, CE, has managed three large capital improvement projects - a $6.5 million underground reservoir and treatment facility, a $3.4 million water line upgrade, and a $4.0 million pavement rehabilitation program. ■ **Richard L. Buck**, ChE, and Joetta moved to New Madrid, Mo. in January 1995. Richard accepted a plant manager position with Kontek Industries Inc. Richard writes, "We are looking forward to returning to the rural life."

## 1964

■ **Ralph M. Cassell**, MetE, was named director of corporate quality management for the Laclede Steel Co. He is responsible for managing quality control, quality assurance and customer product satisfaction at Laclede and its subsidiaries. ■ **Robert M. Coffman Jr.**, CE, retired from the Kansas City, Mo., water department after over 28 years of service. "Hazel and I have thoroughly enjoyed our first real vacation in 30 years." ■ **Choon K. Quan**, MSMinE, writes, "As the nuclear waste management program at DOE progresses, there should be ample opportunities for MSM faculty and students to participate. This is a multi-billion-dollar undertaking which has tangible benefits for everyone. DOE needs technical expertise to make this endeavor successful!" ■ **Alan E. Stricker**, CerE, continues to run the Nickel Trader (rare coins & collectibles) business, which he founded in 1986. The business is located at 3025 Washington Road, McMurray, Pa., 15317. He and his wife, Joyce, have resided in Pa. since 1964. ■ **Theodore J. Garrett, Jr.**, MetE, was promoted to Director of Strategic Planning at Bethlehem Steel Corp. He is "responsible for developing and implementing strategic and business planning processes for Burns Harbor Business Unit." ■ **Kenneth J. Wulfert, Jr.**, ChE, is currently the Director of Operations for Monsanto Chemical Co.'s Phosphorus and Derivatives Division. In June 1994 he enjoyed his 30 year anniversary with Monsanto. ■ **Virgil C. Coburn, Jr.**, ME, has been the Director of Total Quality Management in the Winchester Division of the Olin Corp. since February 1994. ■ **Chang-Yu Wu**, MSEE, was elected a Fellow of the Institute of Electrical and Electronics Engineers - the highest grade of membership, effective Jan. 1, 1994, with the citation - "For technical leadership in the design of an electromagnetic compatibility laboratory." ■ **Harold Dean Huber**, CE, has retired and moved to Weaverville, N.C. Harold is still working part time at the branch office of Hendon Engineering in Asheville. ■ **David N. Peacock**, GGph, Laurie, Janine, 12, and Gregory, 10, are living in the hills above Oakland, Calif. David writes, "Still working on Africa projects, but now doing business development. Traveling to places like Djerba, Tunisia, and Maputo, Mozambique, keeps life interesting."

**Thomas K. Gayford**
**Phys'65**

A Julius Brown Chair and Regents' Professor of Electro-Optics in the School of Electrical and Computer engineering at the Georgia Institute of Technology, Gayford recently received the 1994 "IEEE Graduate Teaching Award." This is a technical field award established by the IEEE board of directors in 1990 to honor teaches of electrical and electronics engineering and the related disciplines "for outstanding teaching of graduate students."

Gayford received his MS in electrical engineering from UMR in 1967 and his Ph.D. from Rice University in 1970.

## 1965

■ **Donald A. Bugg**, ChE, retired from Dow Chemical in March 1994, after 28 years in manufacturing, human resources and safety. Don, Jeanine and their youngest daughter live in Granville, Ohio. ■ **Edward T. Lillie**, ME, writes, "Lillie Co. Inc. has pioneered mechanical construction management and commissioning on major construction projects." Edward is the owner of Lillie Co. Inc. in St. Louis. ■ **Erica Dunning**, EMgt '94, writes that **Thom Dunning**, Chem, was appointed director of the Environmental Molecular Sciences Laboratory (EMSL) in Feb. 1994. EMSL is a new laboratory at the Pacific Northwest Laboratories. Their mission is advancing the understanding of the molecular processes underlying environmental remediation.

## 1966

■ **Ronald "Ronn" Umphrey**, ME, founded Ronn Umphrey Consulting, specializing in coaching business organizations in growing their quality management systems to satisfy ISO 9000 international quality standards. ■ **William S. Warda**, CE, retired in March 1992 as a supervising civil engineer I for the County of Los Angeles, Calif. William lives in northern California and deals in real estate brokerage in his spare time. ■ **James E. West**, ME, is a senior consultant with Keane Inc. in Indiana. ■ **Larry N. McKinnis**, ME, was "reassigned to become the applications manager for the A 4LD Transmission Department for Ford of Europe in the US office." ■ **Ralph H. Kramer**, EE, writes, "Effective Sept.

1, 1994, Continental Illinois National Bank & Trust Co. was acquired by The Bank of America," which has its headquarters in San Francisco. Ralph chose to stay in Chicago, and will continue lending to independent oil companies.

### 1967

■ **James W. Cumper Jr.**, CE, wife Janet and their two daughters live at 910 Joseph Dr., Papillion, Neb. 68128. Jim has been the chief of construction, operations division, at the Corps of Engineers, Missouri River division, since July 1993. ■ **Gary F. Sievert**, ME, writes, "In December 1993 Schlumberger sold our division to Hydrochem Industrial Service Inc. Shortly after the sale, I was appointed manager of quality assurance for Hydrochem." ■ **David Lloyd-Jones**, ME, recently acquired the title of senior manager of manufacturing engineering at the Kroger Co.. ■ **Edward Dean Miller, II**, EE, is now a consulting engineer registered in Ga. Edward writes, "I have four daughters! Mary is a freshman at Georgia Tech (ME). I wish it was Rolla. Hello to all. Did you see the national news regarding flooding in Macon, Ga.? My firm will help design a new $90 million water treatment facility on high ground." ■ **Ronald M. Ledbetter**, MetE, is a technical service representative for Wabash Alloys, Wabash, Ind. ■ **Michael R. Foresman**, ME, and Kathy are kept busy with work and outside activities. Michael writes, "Our oldest son, Matt, is a senior at UMR in geological engineering. Our son Aaron is a junior at Georgia Tech in mechanical engineering." ■ **Michael L. Deelo**, MetE, is currently working for Doe Run Co. as manager of sales.

### 1968

■ **Dennis R. Parker**, ChE, and Sue moved to Houston in summer 1994, when Dennis was named vice president of safety, health and environmental affairs for Conoco. ■ **John J. Howard**, ChE, has returned to Ill. from Ca. recently. Jack is "looking for employment primarily in the environmental energy field." He writes, "I would like to hear from classmates, professors, old girl (?) friends, etc. Peace and all good things." ■ **Norris W. Perry**, EMgt, was promoted from sales account executive to assistant vice president of sales for Brenco Inc. and its subsidiary, Quality Bearing Service.

### 1969

■ **James R. Labit**, ME, was appointed director of engineering and planning for the Tri-City Regional Port District in Granite City, Ill. The District provides economic development and land management services for southwestern Illinois. ■ **John H. Roam**, ME, looks forward to retiring from Arco in March 1995 after 26 years of service. He plans to restore cars, play golf, travel and watch son Matthew, 7, grow up. ■ **Richard A. Walter**, CE, was named to head the Missouri Highway and Transportation Department's Southwest District. Headquartered in Joplin, Richard oversees highway and transportation operations in an 11-county area. ■ **Steve C. Mueller**, MetE, "moved again!" Steve writes, "Ernestine and I are enjoying our return to the southwest and to the copper industry after nearly 20 years." ■ **Theodore W. Holland**, GGph, writes that he is doing "work as a consulting geologist. Geotech., hydrology, petroleum storage tank cleanup." He is registered as a professional geologist in Idaho and Wyoming and serves as secretary-treasurer of the Idaho Association of Professional Geologists.

## *Seventies*

### 1970

■ **William D. Alexander**, ChE, teaches high school physics in Kansas City, Mo., and writes, "Tom Francis, UMR freshman in chemical engineering, is one of my former students!" ■ **Eric D. Aschinger**, EE, was named to a two-year term as a member of the board of directors for the St. Louis Electrical Board. ■ **Richard G. Chapman**, ChE, was promoted to the position of partner at Black & Veatch in January 1994. ■ **John M. Harris**, GeoE, writes, "Our hang gliding school (Kitty Hawk Kites) was just written about in *Southern Living Magazine*." ■ **Eric L. Kratschmer**, ME, earned his MBA from LaSalle University in May 1994 and was promoted to engineering manager at Hull Corp. Eric lives at 772 Grove Ave., Southampton, Pa. 18966-3439. ■ **Larry W. Mays**, CE, is chairman of the civil engineering department at Arizona State University, where he is heavily involved in research. He was editor-in-chief of a handbook of water resources for McGraw-Hill and is completing a book, *Optimal Control of Hydrosystems*. ■ **Aravind Muzundar**, CE, and his wife have two daughters and live in Indiana. ■ **Thomas C. Nebel**, EE, was promoted to national sales manager for federal test and measurement at Hewlett-Packard. Tom, Susan and their three children live in Middletown, Ohio. Tom and Susan have been married 23 years; they met at the fall mixer while Susan was attending Lindenwood. ■ **Terry C. Pursley**, CE, is J.S. Alberici Construction Co.'s project engineer for the construction of the new St. Louis sports stadium. ■ **Lowell "L. D." Stevenson**, ME, works for Barrios Technology, supporting the NASA Astronaut Office in the Space Station and Russian Programs. "I have made one trip to Russia to participate in the landing and recovery of Soyuz TM-16, which returned from the Russian MIR Space station in July 1993. It's very interesting work." ■ **Bill Torres**, CE, president of Torres Consulting and Engineering Co. of Kansas City, was the featured speaker during the UMR National Hispanic Heritage Month luncheon Friday, Oct. 7, 1994. ■ **Warren C. Woods**, CE, was the 1994 president of the Kansas County Highway Association and the 1993 president of the Kansas Society of Land Surveyors. ■ **Larry J. Dean**, EE, currently works for Litton Laser Systems and "moved to Operations in 1994 and expecting several contracts to deliver test equipment." His son, Matt, is currently a senior in high school and has his black belt in karate. n **Joseph J. Kammerer, Jr.**, CE, writes, "My nephew, Robert Kammerer, has just started UMR on a full scholarship earned by being a National Merit Scholarship finalist. He is a computer science major and plans a minor or co-major in electrical engineering. UMR class of 1998." ■ **James L. Fox**, ME, was promoted from engineering manager to director of production at Roxame Laboratories in Columbus, Ohio. James now handles sterile liquid packaging. ■ **Larry J. Oliver**, CE, has been working with Sverdrup Corp. for nineteen years as of February 1995. Larry has relocated to Portland, Ore., to work on CSO program management project for the city of Portland. He, Carole, and the kids (Jeff, 14, Steven, 11, and Kari, 6) are "enjoying many new adventures in the Pacific Northwest." ■ **Andrew J. Polcyn**, ME, writes, "I'm proud to be a graduate of the UMR ME department, which is a fine institution. My wife, Susan, and I are also proud of our two sons, Bryan, 22, and Tom, 25. Tom is a 1991 graduate of the ME department and is now completing his third year of law school at St. Louis University." ■ **Richard G. Chapman**, ChE, was promoted to partner at Black & Veatch in January 1994. ■ **David Villafana**, MSChE, is "building a new manufacturing facility for adhesives and sealant at the 3M TMD plant in Springfield, Mo." ■ **Michael R. McGath**, ChE, was named to *Who's Who Registry of Global Business Leaders*.

### 1971

■ **Sid Gaddy**, AE, and Betty celebrated their 25th wedding anniversary in 1994. Their daughter, Kristi, graduated from Troy State University. After retiring from the Army Reserves as a lieutenant colonel, Sid graduated from the Defense Systems Management College and began serving as the deputy project manager of the Army's Patriot missile system. ■ **Prafulla C. Mahata**, MSME, enjoys his new position as senior analyst at the Center for Verification Research in the Washington, D.C., area. He and his family have moved to Mount Airy, Md. ■ **Steve Renick**, MetE, was promoted to manager of quality assurance/metallurgy at Wire Rope Corp. of America's wire products division in Chillicothe, Mo. Steve and his family will move to Chillicothe when the new 300,000-square-foot manufacturing facility opens in 1995. ■ **Robert F. Hoel, Jr.**, CE, was promoted and will be part of the team "directing the operations of the company" (Brown & Root Building Co.) in Clearwater, Fla. The team will direct south Fla. operations. ■ **David M. Simon**, EMgt, is living in Saratoga Springs, N.Y. and writes, "Started a new job in March 1994 and was greeted the first week on the job with a 20-inch snowfall. The snow is gone, the job is going well, and Jo-Dine decided it's safe to move here. So we're officially moving in Oct. Just in time for the snow to start again!" ■ **Michael P. Mulvaney**, EMgt, writes, "Our son Ben is a fall 1994 freshman at UMR. He finished the fall as the top runner on the Miner cross-country team." ■ **Michael A. Moore**, EE, has held the position of superintendent of electric transmission and distribution at City Utilities in Springfield, Mo., for the past three years.

### 1972

■ **Jack Beebe**, Psych, continues to expand his interest in computers and teaches programming in the evening division at Lincoln Land Community College in Springfield, Ill. Jack, Sheila and their three children live in Petersburg, Ill. ■ **Carl A. Campo**, ME, is the industrial engineering manager for the Beloit Corp. in Beloit, Wis. He earned his master's degree in industrial management from Northern Illinois University in May 1993. ■ **W. Marie**

# HOMECOMING 1995

## Honoring the classes of

1945

1950

1955

1960

1965

1970

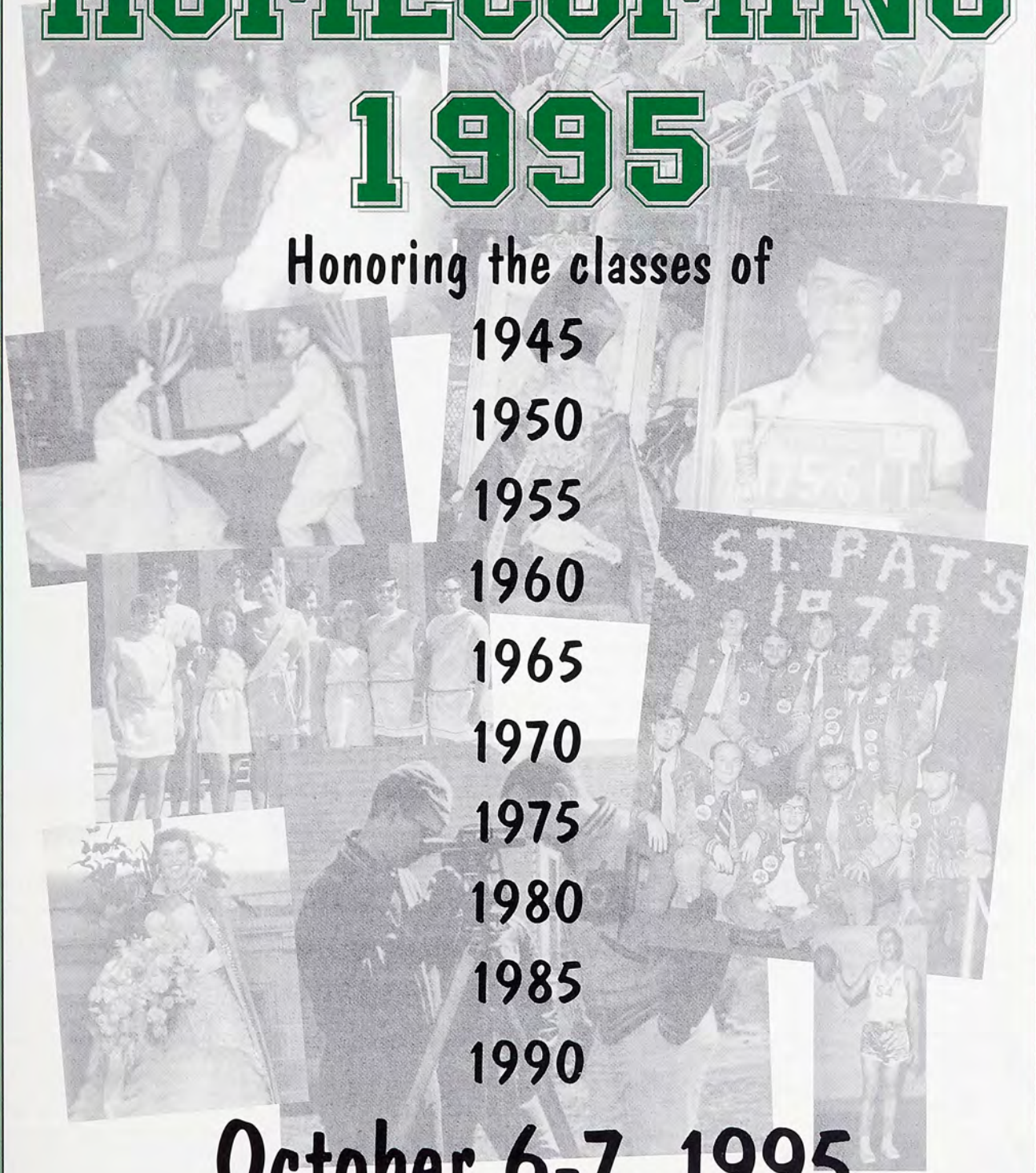
1975

1980

1985

1990

## October 6-7, 1995



# ALUMNI NOTES

**(Perez) Greene**, CE, retired to Angel Fire, N.M., to renovate an old house and garden. She was an engineer with the Environmental Protection Agency. ■ **Steven D. Rush**, CE, is president of Site Development Engineering Inc. in St. Louis, and writes, "Sorry I missed getting into the 'Entrepreneur' issue *[Special Edition, Summer 1994]*. My company is 8.5 years old and my news is I've just added a surveying department! We have grown from two employees to six this year and our opportunities are growing strong!" ■ **Dennis R. Nethington**, Hist, has been the Data Asset Team Coordinator for the Europe - Russia - Africa Group in Mobil's new business development unit since June 1994. ■ **Carey B. Bottom**, Chem, writes, "Former company, Chase Pharmaceutical Co., was acquired by a Dutch holding company, Sobel USA, which also owns Banner Pharmacaps Inc. I was offered and accepted the position of corporate vice president of research and development for BP in Calif. BP has operations in N.J., Calif., Canada, UK, Mexico, and the Netherlands." ■ **Rex Widmer**, CSci, has developed the "Rex on a Disk," which claims it can do "analysis in minutes instead of months." This portfolio analyzer is a "knowledge based system for analyzing existing progarams in the large-scale IBM mainframe environment."



## 1973

■ **William W. George**, PetE, and Linda Sue Wooten were married Oct. 1, 1994, and live in Longview, Texas, where Bill works as an engineer. ■ **John R. Payne**, ME, works in Columbia, Mo., selling real estate with Gaslight Better Homes and Gardens. ■ **Scott Winfield**, CSci, and wife Karen have been enjoying themselves in Colorado Springs for the last three years. Scott is continuing to develop network management application systems for MCI. ■ **Peggy Shackles Lorge**, Math, is in her ninth year of teaching math and science as well as being a Chapter 1 Coordinator at Pyramid Lake High School in Nixon, Nev. She has also been writing grants for the school. Peggy writes, "David is consulting for the mineral industry. Our two girls Julila, 3, and Jemel, 10, are growing." ■ **Maximilian Toch**, MSCE, writes, "I am enjoying working for CDM Federal, a subsidiary of Camp Dresser & McKee. We just moved to Vienna, Va. Best wishes to my old friends John Kincaid and Dr. Gregg." ■ **Alvin E. Grossman**, MSME, writes, "Just retired from McDonnell Douglas Corp. Worked in ground support section for F-18 generator." ■ **James C. Hunsicker**, EE, has worked for 16 years in the engineering department at Illinois Power Co.'s nuclear power station. He is moving into computer databases and information management from instrumentation design work. James writes, "Our two boys are doing great. Craig is considering Rolla for engineering next year." ■ **Richard G. Schafermeyer**, ChE, was recently promoted to associate director of product development in the "Olestra, StO, and Bake Mix Division" of Procter & Gamble.

## 1974

■ **Donald C. Allebach**, ME, is happily employed at PCT Inc., a consulting firm established by two former co-workers at Alcoa. His wife, Linda, attends the University of Iowa; daughter Carrie attends Iowa State University, and daughters Laura and Katie attend Luther College in Decora, Iowa. ■ **Richard M. Baker**, CE, has two sons attending UMR. Jesse is a junior in geophysics and Jack is a sophomore in civil engineering. ■ **Lt. Col. Michael J. Miller**, AE, writes, "Greetings from Stuttgart, Germany, home of the European Command Headquarters, where we are serving as political-military affairs advisors to the Commander for European U.S. and NATO forces. I am the desk officer for Bulgaria, Romania, Slovenia, Serbia and Bosnia. If you have suggestions on how to solve the B-H War, all are welcome." ■ **John Weekley**, ME, became the principal owner and president of the C.B. Ives & Co. Inc. in the Philadelphia, Pa., area. John writes, "I am excited about this opportunity for C.B. Ives & Co. Inc. to grow and hopefully lure some UMR alumni to the Philly area!" ■ **Alan S. Kornacki**, GGph, was selected for enrollment in the U.S. Army War College corresponding studies program, which involves 150 senior Army Reserve officers each year. His mobilization assignment is in the Force Integration Branch at headquarters, U.S. Special Operations Command. ■ **Marvin E. Borgmeyer**, ChE, and Susan are living in Baton Rouge with their five children. Marvin is now entering his twentieth year with Exxon Chemicals as an operation manager and recently received the President's Award for community service.

## 1975

■ **Michael A. Mahn**, ME, was promoted to senior project engineer and transferred to Caterpillar's international marine engine group. Michael was one of the engineers to work on the most powerful single engine diesel locomotive in the world. An article on the locomotive was run in *Popular Mechanics* in November 1994. ■ **Robert G. Wonish**, ME, was promoted to vice president of Panaco Inc. in April 1994. "Panaco is involved with acquiring properties from the majors in the Gulf of Mexico and then exploiting them with horizontal drilling techniques." ■ **Mitchell F. Peterson**, EE, is working for Chevron Petroleum Technology Co. as the lead instrument engineer for design and construction of two new platforms off western Africa. ■ **William J. Schwamle**, CSci, obtained his MS in telecommunications after five years of programming and twelve years of management at IBM. William now works for Advantis, which is a telecommunications company and a spin-off from IBM and Sears. He writes, "The last two years of reengineering have been rewarding." ■ **Michael Joshua**, EMgt, is president of his dad's company - J.M. Products Inc. - in Little Rock, Ark. Almost a hundred employees at two facilities spread over nearly 175,000 square feet manufacture hairsprays and hair conditioners that can be found on the shelves at many Wal-Marts across the country. The company is active in the community through organizations such as YMCA, Philander Smith College, Shorter College and the United Negro College Fund.

## 1976

■ **Harold R. Garner**, NucE, moved to Dallas, Texas, where he is a professor of biochemistry at the University of Texas Southwestern Medical Center. "Anybody want to buy a house in San Diego, Calif.?" ■ **James D. Wood**, ChE, and Mary Ann still live at 3345 Deep Well Court, Abingdon, Md. 21009. Mary Ann earned her MS in nursing in May 1994, and Jim and Mary Ann celebrated their first wedding anniversary in November 1994. ■ **Gregory G. Williams**, ME, became the executive director of business development for Southwestern Bell Technology Resources Inc. - a subsidiary of SBC Communications Inc. - on Sept. 1, 1994. Gregory writes, "Neat job!" ■ **David K. Denner**, ChE, joined ANGUS Chemical Co. in November 1993 as vice president of operations. Dave, Denise, Darcy, 13, Daniel, 9, and Mickey, 7, now live at: 457 Joe White Rd., Monroe, La. 71203. ■ **Don Chronister**, MetE, was transferred from Amoco's Corporate Technical Services Center to Texas City to serve three of Amoco's chemical plants in the Houston area. Don writes, "Interesting work, great people, but I'm still getting used to 78 degree weather on Dec. 1! P.S. We gave our snow shovels away!"

## 1977

■ **Larry L. McNary**, MinE, is still at the Rock Island Arsenal in Illinois and would like to hear from old friends. ■ **Gary K. Warren**, ME, "recently left Houston and the oil business to become president of Contract Transport Inc. located in Tulsa, Okla." Gary also writes, "I'm closer to Missouri and plan to plant my roots here." ■ **Christopher M. Jarrett**, CE, is working as a resident engineer in American Samoa on federal highway projects on the island of Tutuila. He and his wife Jolenta live in the village of Leone. ■ **Jo Ellen Cawlfield**, ChE, moved to Chapel Hill, N.C., in January 1994 to start her PhD in environmental science and engineering at the University of North Carolina at Chapel Hill. ■

**Michael J. Kausch, Jr.**, MSEMgt, and his wife Patricia, frequently visit their daughter, **Joanne (Kausch) Holmes**, MetE '91, and her husband, **Robert**, CE '87, and their children; Rebecca Marie, 3 1/2, and Amanda Jael, 1 1/2, in Savoy, Ill. Bob Holmes has transferred to the U.S. Geological Survey in Champaign-Urbana and is planning to begin work on his PhD in CE.

### 1978

■ **J. Mike Fischer**, ME, has completed 11 years with Lee Apparel Co. where he manages the facilities design group. Mike and Christie live in Overland Park, Kan. ■ **Kim R. Fowler**, EE, has worked with the Applied Physics Laboratory at Johns Hopkins University for 13 years. He finished a textbook on the design and development of electronic instruments to be published by Oxford University Press this year. He also placed in the 1993 *Design News* Design for Excellence contest. Kim, Oonagh and Seth are doing well. ■ **Robert D. Freeman**, ME, is a project manager for MAXTAR Corp., "leading a team of engineers designing disk drives for the personal computer market." ■ **Rosa L. Herman**, ChE, writes, "I received my MBA from the University of Michigan, was named to the Beta Gamma Sigma national honor society for business, relocated to Texas with Dupont and was married to Robert Hall Christmas 1993. I am enjoying the warm weather here at 4395 Willow Bend Dr., Beaumont, Texas 77707." ■ **John McVay**, EE, serves Tulsa Christian Fellowship as missions director and church administrator, with responsibilities ranging from recruiting children's teachers to database management. John also published an article in the annual *Great Commission Handbook*. ■ **James W. Parker**, EMech, does structural analysis on a contract basis at Bell Helicopter in Ft. Worth, Texas. ■ **Jeff Swoveland**, Geol, has joined Equitable Resource's treasury department as director of alternative finance. Jeff earned his master's degree in finance from Carnegie-Mellon University. ■ **James T. Rau**, CE, is working as regional engineering projects director for Conoco after a temporary stint as Billings refinery maintenance manager. James writes, "Still living in and loving life in Big Sky country!"

### 1979

■ **Mark A. Ditch**, CE, started Ditch Engineering Inc., a civil engineering and surveying company, in Augusta, Mo., in June 1994. ■ **Carma (Stone) Gibler**, ChE, works for Shell Development Co. in process engineering and evaluations. She and Glenn live in Houston, Texas. ■ **Stanton W. Hadley**, NucE, works on the Martin Marietta research staff in Oak Ridge, Tenn., and writes, "I am doing great and working hard!" ■ **Mark D. Krahenbuhl**, CE, started with Samson Resources as vice president, exploration, in September 1994 after 13 years with Bridge Oil. Mark and his family moved to Tulsa, which put them closer to their relatives. ■ **Michael W. Noble**, ChE, is assistant director of oral and maxillofacial surgery at St. John's Mercy Medical Center in St. Louis. Michael and wife Nancy have one daughter, Natalie. ■ **Kevin R. O'Sullivan**, ME, is vice president of engineering for Diagnetics Inc. in Tulsa, Okla. Kevin and wife Karen have two children, Patrick and Kaitlyn. ■ **James R. Wray**, ME, and Denise are back home in Springfield, Mo., after several years in Houston and Fort Worth, Texas. Jim is a project manager for Turblex Inc., a packager of high volume turbine compressors. ■ **Charles E. Mattson**, EE, is living in Ridgecrest, Calif., and is working as a range systems engineer in the Range Architecture Office of the Pacific Ranges Department at China Lake. He is the scoutmaster for Boy Scout Troop 35 in China Lake. His oldest son, Roger, 12, is in the sixth grade and his youngest son Ryan, 6, is in the first grade. Charles' wife Karen is the treasurer of the PTA. Charles writes, "Near Death Valley? Stop and see us!" ■ **James F. Fox**, GGph, is living in Bartlesville, Okla., with his son Christopher and his wife Deborah. He is the Geoscience Director for Worldwide Exploration. James taught "a two day seminar for AAPG entitled 'Interaction Between Sedimentation and Salt Tectonics.'" ■ **Bruce Cooper**, ME, is a major in the Army and "is currently assigned as an instructor in the Army ROTC Department at the University of Missouri - Columbia." ■ **Milo Foster**, ME, traveled around the world four times in six months as director of Kimberly - Clark's World Support Group. Now he is vice president of operations and planning for Kimberly-Clark's Household Products business in Europe. Milo writes, "Kathleen, 5, and Anthony, 3, love their bilingual school and Barbara's high school French has finally become useful. We're all enjoying the experience a great deal. If you plan to visit Paris please call 33.1.39.58.96.21." ■ **Johanna Yuhas**, EE, was promoted to staff project engineer, Proving Division, General Motors Corp..

## Future Miners

**Phillip Henry**, NucE'75, and Jill, their first child, a boy, Matthew.
**James H. Martin**, AE '75, Tina, and older brother Scott, a boy, Paul Leman, Dec. 22, 1994.
**J. Mike Fischer**, ME'78, and Christie, a boy, Nathan Andrew, Oct. 20, 1994.
**Bob Freeman**, ME '78, and Pam, their first child, a boy, Theodore Robert, named after his grandfather, Dec. 6, 1994.
**Russell L. Goldammer**, CE '78, and Shirley, their third child, a girl, Ashton Marie, Oct. 13, 1994.
**Carma (Stone) Gibler**, ChE'79, and Glenn, their first child, a girl, Hayley Lauren, Dec. 9, 1994.
**Linda (Hudgens) Michaelsen**, LSci'80, and Ward, a girl, Emma Christine, Sept. 23, 1994.
**Michael Fearon**, Geol'81, and Donna, a girl, Rebecca Anne, Sept. 6, 1994.
**Morris C. F. Buenemann Jr.**, ME'82, and Barbara, a girl, Allison, July 8, 1993.
**Dale Anthony Kyser**, ChE '82, and Joan, a girl, Rebecca, Oct. 25, 1994.
**Charles "Dave" Malin**, EMgt'82, and **Diana Sue (Bindemann)**, ChE'83, their second child, a girl, Hannah Terry, September 1994.
**Daryl Seck**, EE'82, and **Sheila (Courtway)**, ME'84, a boy, Michael, June 1994.
**Todd M. Thomas**, CE'82, and **Lynn Dee (Paar)**, EE'83, a girl, Anne Dee, Oct. 23, 1994.
**Jeffrey Scott Bell**, ChE '83, and Crystal, their first child, a girl, Kaitlyn Lee, April 15, 1994.
**Mark P. Carthy**, MSChE'83, Vera and older sister Lydia, a girl, Natalie Alexandra, June 25, 1994.
**Bradley R. Miller**, ME'83, and **Susan (Pyron)**, EMgt'86, their third daughter, Candice Rosalie, Oct. 25, 1994.
**Charles K. Reed**, MetE'83, Malette and older sister Stephanie, a girl, Elizabeth, April 6, 1994.
**Kim (Hofstetter) Williams**, PetE '83, and **Dave**, PetE '83, and Dylan, $2^1/_2$, a boy, Collin, Aug. 30, 1994.
**Jamie (Luca) Bennett**, EMgt'84, Marc, and older siblings Tyler and Jennifer, a girl, Heather Francis, Sept. 9, 1994.
**Michael A. Book**, EE'84, **Mary Alice (Gielow)**, ME'85, and older sister Maureen, a girl, Melanie, Jan. 21, 1994.
**William "Andy" Chambers**, ME'84, and Diana, their second child, a girl, Bethany, March 18, 1993.
**Guy Cordonier**, ChE'84, and Nancy, their fifth child, a boy, Michael, 1994.
**Karen (Penney) White**, ChE'84, **Scott R.**, ME'85, and older siblings Amy and Evan, a girl, Audrey Elaina, July 28, 1994.
**Sharon (Berger) Finger**, PetE '85, and Lou, their third girl, Nicolet, February 1994.
**Glenn G. Fournie**, ME'85, Lynn and older siblings Luke and Amy, a boy, Josh, 1994.
**Kostas Kolliopoulos**, ChE'85, and Anna, a boy, Panayioti, Sept. 2, 1994.
**Kevin Truman**, PhDCE'85, Katina and older brother Zane, a girl, Kameryn Rae, Sept. 4, 1994.
**Matt Lemke**, EE'85, **Vicki (Koch)**, ChE'86, and older brother Brian, a girl,Kelly, Sept. 14, 1994.
**Jorge A. Ochoa**, ME '85, and Heidi, a girl, Olivia Rose, Feb. 25, 1994.
**Kevin Dale Renfro**, PetE '85, and Michele, a girl, Kathryn Joelle Renfro, Dec. 1, 1994.
**Anne (Oetting) Spence**, AE'85, and Loyd, a boy, Jonathan Tyler, June 7, 1994.
**Kim W. Tracy**, CSci, Math '85, and Kathleen, a boy, Robert, Aug. 13, 1994.
**James Akers Jr.**, ChE'86, and Donna, their first child, a boy, Christopher, April 1994.
**John Charles Denzel**, ChE'86, and Debbie, a boy, Christopher, Aug. 15, 1993.
**Curtis David Eshelman**, NucE '86, and **Carolyn (McCowan)** , CSci '87, their first child, a boy, April 1994.
**Jim Reinhardt**, EE'86, **Mary Jane (Paganini)**, CSci'86 and four-year-old Kevin, a girl, Nicole, Jan. 13, 1994.
**Forrest T. Thomas**, CE'86, and **Meg (Marshall)**, CE'87 a girl, Haley, Aug. 6, 1994.
**Dan Bock**, ME'87, and **Sarah (Reeves)**, ChE'87, a boy Kevin, May 23, 1994.

*Continued on page 36*

# ALUMNI NOTES

## Eighties

### 1980

■ **Elizabeth (Bellis) Drees**, NucE, just finished her 11th year at General Atomics in San Diego, Calif. Her recent tasks in space power programs deal with nuclear waste disposal and PIE work. Her husband, John, and their five animals enjoy life in San Diego. ■ **Karen (Downer) Herbert**, ChE, recently ended three years as president of the St. Louis section of the Society of Women Engineers. Karen is chair for the 1995 Expanding Your Horizons Conference for girls in grades eight through 10 and works in SWE public relations. "Henry is 15 months old, has an amazing memory and loves to stack blocks." ■ **Steve Ramsey**, GeoE, was reassigned by Diamond Offshore International as area manager for semi-submersible operations in waters offshore Trinidad and Tobago. ■ **William G. Hansen**, EE, is a project engineer with Black & Veatch and is involved in design and construction of underground transmission lines. William and his wife Cindy live in Overland Park, Kan., with daughters Gina and Hanako. ■ **John G. Hoffman**, MinE, is still living in Egypt and is having a great time. John writes, "It was nice to see some information on my old roommate 'Big Bob.' I wonder where Monroe is these days? And where is Debbie Foy? And Ben McNail? Oh well, our address is P.O. Box 4381, EXPAT-EGYPT, Houston, Texas, 77210."

### 1981

■ **Chester W. McDowell Jr.**, ChE, works for Chevron Overseas Petroleum and still lives in Arcadia, Mo. ■ **W. James Unverferth**, ChE, is vice president of engineering with Synergy Production Co. in Houston, Texas. James, Nancy and their two daughters live at 15418 Woodland Orchard Lane, Cypress, Texas 77429. ■ **Kathleen (Sullivan) Ziha**, ME, enjoys being at home with her two children, Sarah, 8, and Colin, 3. "We recently lived in Brussels, Belgium, for one-and-a-half years. It was a wonderful experience." ■ **Gary P. McMichael**, CE, received his MSEMgt Dec. 17, 1994 through UMR's Gateway University Program. ■ **Keith Tomazi**, ChE, is working as senior development engineer in the synthesis and purification of peptides for Mallinckrodt Specialty Chemicals Inc. ■ **J. Barry Shelden**, PetE, and **Kathleen (Dill) Shelden**, CSci '79, have moved to Jakarta, Indonesia, after "12 wonderful years in Alaska." They are looking forward to the adventure and their "new address is Barry and Kathy Shelden, ARRI, c/o AIOG-C., P.O. Box 260888, Plano, Texas, 75026-0888. It only requires U.S. postage, so please drop us a line!"

### 1982

■ **Stephen A. Bahn**, CE, is a superintendent with Olin Chemicals in Charleston, Tenn., responsible for the manufacture and shipping of chlorine, caustic, hydrochloric acid and other industrial chemicals. "I am not sure how my civil engineering degree got me here." ■ **Lynn E. Johnson**, ME, is a senior engineer with McDonnell Douglas in St. Louis. He and his wife have been married for 12 years and have two sons, David and Micah. ■ **Timothy P. O'Mara**, ChE, left Cargill after 12 years to return to St. Louis, where he is a project engineer with Fru-Con Engineering. "I am having lots of fun with other alums from UMR. Work with Fru-Con is good, but I do miss the frequent trips to UMR that Cargill recruiting afforded." ■ **Eric G. Politte**, ME, is president of Response Management Associates, an environmental engineering/consulting firm. Eric, Sue and their three children live in Spring, Texas, and invite old friends to call. ■ **Mark L. Stevens**, CE, and Glenda have two daughters, Alex and Lauren, and live in Canyon Lake, Texas. ■ **D. Joe Strain**, CE, founded Strain Engineering in St. Peters, Mo., which provides structural and architectural engineering, inspection and investigation services to architects, contractors and private clients. ■ **Kim (Signorino) Swartz**, EMgt, is an environmental engineer with Air Combat Command at Langley Air Force Base, Va. Kim and her husband live in Smithfield, Va., with daughter Amanda and son Jeremiah. "We love small town life." ■ **John Topi**, ME, is project manager for the new federal building and U.S. Courthouse in Omaha, Neb. His twin sons, Johnny and Matthew, started kindergarten. ■ **Vicki Sue Johnson**, AE, is now working for USRA management on special projects, which include increasing minority participation in USRA programs and increasing use of electronic communications. Vicki was originally manager of the NASA/USRA/University Advanced Design Program, which ended with the "Reinventing the Government" activity. ■ **Mark D. Dieckmann**, PetE, is now working for Anadarko Petroleum in Houston. Mark writes, "Working for an independent sure is better than the majors."

### 1983

■ **David A. Bruner**, ME, is manager of mechanical engineering, research and development, for Brother International in Bartlett, Tenn. He earned his PhD from the University of Kentucky in May 1993. ■ **Scott Davis**, ME, is a process design engineer for the Paul Mueller Co. in Springfield, Mo. **Sherry Davis**, CSci'85, is a programmer for Management Software Inc. They would love to hear from old friends. ■ **Keith Elting**, MSMetE, has three children and has moved to a larger home in Godfrey, Ill. ■ **Patrick J. Giacomini**, ME, Debbie and their children are doing well. Patrick works in a power plant on mechanical systems and control system retrofits. ■ **Dr. Jayant Ramakrishnan**, MSME, is director of Houston operations for Dynacs Engineering Co. and chairman of the Houston AIAA's guidance, navigation and control committee and education and career enhancement committee. ■ **Jon Worth Treat**, ChE, started a new job with GM as design/release engineer for several exterior components on the GM electric vehicle program. He is also close to earning his MSChE from Wayne State University in Michigan. ■ **Thomas T. Wallace**, MSME, works for GE Aircraft Engines in Cincinnati, designing advanced future air-breathing propulsion systems (jet engines). He says hello to all his friends from the 1980-1984 era. ■ **Steven Woodcock**, CSci, and Colleen live in Colorado Springs, Colo. After working in the ballistic missile defense world for 11 years, Steven is going to work on video games for Sega! "Not much of a transition, now that I think about it." ■ **Jeffrey Scott Bell**, ChE, moved to Keizer, Ore., in Oct. 1993 for a new job with Siltec. Jeff now carries the title of senior staff development engineer, Epitaxy/Thin Films Technology Development. ■ **Cary B. Stiles**, ME, and his wife Diana have lived in Houston, Texas, for the last 11 years. Cary has worked as a project engineer for Bechtel Corp. and is currently the project engineer area coordinator for automation technology in the Houston office. ■ **Michael T. Moylett**, GGph, writes, "Back in the oil patch! Field trip to Hueco and Franklin Mountains was a good refresher!" ■ **Kimberly S. (Hofstetter) Williams**, PetE, is on extended maternity leave from IBM until April 1995, while **Dave**, PetE '83, is a project manager for the USEPA. ■ **Robert S. White**, AE, was promoted to marketing manager with responsibility for Europe, the Middle East, Africa, and Asia for Eli Lilly's medical device company - IVAC Corp. - after being transferred from London to Belgium. ■ **Douglas C. Swenson**, PetE, is now employed as a project engineer with VECO in Bellingham, Wash. after 11 years as a petroleum engineer with Atlantic Richfield in Anchorage. Doug and Laura have a two-year-old daughter, Jessica. ■ **Ken-**

## FUTURE MINERS, CONTINUED

**Cathy (Proffitt) Boys**, ME'87, and Edward, a boy, Nathan Edward, Dec. 10, 1993.
**Jeffrey L. Costellia**, ChE'87, Mikil and older brother Zach, a girl, Kelsey Nicole, May 12, 1994.
**Tony Estopare**, ME '87, and **Nora (Tochtrop)**, ChE '88, their first child, a girl, Nicole Carroll, Jan. 18, 1994.
**Rich Langenstein**, ME '87, and Stephanie, a girl, Elizabeth Hannah, Nov. 24, 1994.
**J. Mark Downey**, ME'88, and Tamara, twins, Nicholas and Sarah, Jan. 13, 1994.
**Jim Paunicka**, MSEE'88, and Linda, their second child, a girl, Sarah Clark, March 30, 1994.
**Tom Roth**, CSci '88, and Veva, their first child, a girl, Rachel Marie, Sept. 21, 1994.
**Randall L. Vogel**, CE'88, and Jerri, a boy, Travis Lee, Sept. 26, 1994.
**Tonya (Clemons) Knollmeyer**, ME '90, and **Timothy K. Knollmeyer**, ME '86, a girl, Victoria Rose, Jan. 24, 1994.
**Kenneth Rigsby**, MinE'90, and Missy, a boy, Patrick Ian, Oct. 26, 1994.
**Scott Fletcher**, CE'91, and Angela, their second child, a girl, Kyleigh Nicole, July 8, 1994.
**Rick Allen Elmer**, PhD Chem '92, and Michelle, their first child, a girl, Aug. 7, 1994.
**Joe Jones**, CE'92, and Valerie, a boy, Nicholas Gerard, Dec. 13, 1993.
**Mitchell Rackers**, ME'93, and Debbie, their first daughter, Shaylynn, Sept. 8, 1994.

# Job Hunting?

## *Come to a job workshop...*

Are you a UMR alumnus or alumna who is looking for employment opportunities? Do you need professional help with your resume or your interviewing skills? Would you like to review your career choices? If so, the Career Opportunities Center at UMR is prepared to assist you at a two-day workshop the third week in May. The cost is $75 and includes housing and meals. For more information, please contact Marcia Ridley at:

Phone 314-341-4229
Email mridley@umr.edu
Write 303 Norwood Hall, Rolla, MO 65401

## *...or, try the Internet!*

Marcia Ridley in UMR's Career Opportunities Center is finding ways to help alumni with their job searches using the Internet. Here are two places you can go right now for help: The Monster Board (point your Web browser to *http://www.monster.com*) and The Online Career Center (on the Web, go to *http://www.occ.com/occ/*, or use gopher to go to *occ.com* - if you get a menu, select "other gopher servers" and then "Msen Gopher and Online Career Center"). In the future, the Career Opportunities Center plans to offer job listings to alumni through their home page on the World Wide Web (they are currently available by mail, for a $25 subscription fee). We'll announce this new service in the *MSM Alumnus* when it's ready, and tell you how to find it.

**neth W. Gieg, II**, MetE, Kathy, Taylor, 4, and Sam, 1, are still in St. Louis. Kenneth recently joined Emerson Electric in Corporate Procurement Development. ■ **Timothy L. Barefield**, ME, and **Katryn (Davidson) Barefield**, Econ '84, are living in Massachusetts where Tim is pursuing his PhD at Harvard. "Michael, 7, and Stephanie, 5, are both enjoying school at Ecole Bilingue, a bilingual French/English school nearby." Tim would like to hear from **Jim Wilder**, EMch '82.

### 1984

■ **William "Andy" Chambers**, ME, is the pastor of Geyer Road Baptist Church and earned his PhD in New Testament from Southwestern Baptist Theological Seminary in Ft. Worth, Texas, in May 1994. ■ **James A. Harber**, ME, started an office in Los Angeles, Calif., marketing environmental technology to the international market. ■ **Steve M. Heitert**, EMgt, was installed as national president of Triangle Fraternity in fall 1994. He is a sales engineer with O'Brien Equipment Co. in St. Louis and has four children. ■ **Steven C. Meyer**, AE, and Lora Richards were married July 30, 1994. Steven is a senior project coordinator for Monsanto and a captain in the Army Reserves; Lora is completing art certification and a master's in teaching from Webster University. ■ **Paul E. Nandico Jr.**, Psych, recently merged his private practice with a local counseling center and things are going well in Miami, Okla. ■ **Sheila (Courtway) Seck**, ME, graduated from Washington University School of Law in May 1994 and works for Judge D. Brook Bartlett in Kansas City. ■ **Bentley Alexander**, EE, Jennifer, Jonathon, 7, and Lauren, 5, have been in the Oklahoma City area just over three years.

### 1985

■ **Donald J. Buth**, NucE, still works at Quad Cities Station. His wife, Lisa, finished editing her first documentary and is starting to edit an independent feature film. Their children, Josette and Nathan, keep them busy. ■ **Michael D. Finch**, CE, and Carolyn love living in Florida and keep busy with their children and with working. Michael works for the Florida Department of Transportation. ■ **Sharri (Riggs) Hiller**, CE, writes, "I have taken a leave of absence to stay home with our 11-month-old son. So far, I don't miss road building at all." ■ **Jeff Hiller**, CE, was named acting maintenance engineer for Division 7 of the Oklahoma Department of Transportation. ■ **Suzanne (Penfold) Maslach**, ME, lives in Rochester, N.Y., selling plastic products for Mobil Chemical Co. Her husband, Bill, is director of sales/service for an energy management company. Suzanne and Bill have one son, William Connor, 2 1/2. ■ **Joan (Mazurek) Meyer**, ME, works for McDonnell Douglas Aerospace-East in the flight test engineering department. "I enjoy seeing lots of UMR grads at work." ■ **Beth Mueller**, ME, is a first-year medical student at St. Louis University after over five years with Procter & Gamble Co. ■ **Dale A. Shelton**, NucE, just finished up development of the conversion to improved technical specifications for Clinton Power Station. "It has been a really big job, but worth it." ■ **Mike Wisland**, EE, has been site-seeing (calibration sites) in Washington, D.C., Greece, Germany and the Russian Federation in support of the upcoming Open Skies Treaty between the United States and 29 other countries. His home is still in ski country near Salt Lake City, Utah. ■ **Randall A. Wood**, ME, is manager of design engineering with the Able Body Corp. of Joplin, Mo. ■ **Michael J. Dell'Orco**, ME, is attending graduate school full-time at the University of Florida courtesy of the U.S. Army. Michael writes, "It sure is strange to be a student again and not to have St. Patrick's Day to look forward to. I'd trade my two-hour ride to Disney World for that 30-minute drive to Meramec Springs in a heartbeat!" ■ **Sharon (Berger) Finger**, PetE, and her husband Lou have returned to the US after 2 years in Indonesia. They are living in Katy, Texas, along with their three daughters. ■ **Maureen E. Hall**, ME, is living in Collinsville, Ill., and "would love to get together with some of my classmates and Chi-O sisters." Beth writes, "Please give me a call at (618) 346-1992 or write 4B Holloway Court, Collinsville, Ill., 62234. See ya." ■ **Robert J. Rosser**, MinE, was recently promoted to senior mine project engineer at Barrick Goldstrike Mine. He had worked for over two years on the feasibility and start-up of their trolley assisted truck haulage system, which is the only one in North America. ■ **Kerry E. Julian**, EMgt, will be moving to the Chicago area because he accepted the position of director of loss control at Transportation Risk Services - a unit of W.R. Berkley. ■ **Kim W. Tracy**, CSci, Math, is working for AT&T Bell Labs in Naperville, Ill., is teaching computer science part-time at North-Central College, and just signed a contract with Computer Science Press to publish his book, which is tentatively titled, "Object-Oriented Artificial Intelligence, Using C++." n **John A. Komlos**, CE, and **Linda (Capone) Komlos**, ME '86, were married in 1990. They are living in West St. Louis with their daughter, Ellen Margaret, who is two months old. Linda works as an engineer for McDonnell Douglas and John is vice president of business development at ARCO Construction Co.. ■ **Eric W. Metzger**, EE, finished nearly four years in Battery Command and has "talked the Army into sending me to school to get a master's in Western European Studies." Eric is attending Indiana University and writes, "This is a liberal arts program and I have to say, 'Toto, I don't think this is engineering anymore.' I'm sure I'll muddle through."

### 1986

■ **James E. Akers Jr.**, ChE, works for Ethyl Petroleum Additives in Sauget, Ill. He and Donna live in Florissant, Mo. ■ **Benton R. Birch**, EMgt,is operations manager for C.L. Smith Industrial Co., specializing in fabrication and installation of high-wear, high-temperature, ceramic-lined components, specifically in the electrical power industry. ■ **Sandra (Belmar)**, ME, and William Forrester were married in September 1994. Sandra works as a systems engineer for Boeing on international space station at Johnson Space Center. ■ **Stephen F. Grojean**, ChE, and Michelle live in St. Peters, Mo. Stephen works as a process engineer for MEMC Electronic Materials; he earned his MBA from Webster University in St. Louis in May 1994. ■ **Rob Jordan**, ME, transferred to the Denver office of Black & Veatch to head the mechanical engineering effort in the Rocky Mountain region. ■ **Lt. Vernon P. Kemper**, ChE, completed the Submarine Officers Advanced Course at the Naval Submarine School in Groton, Conn. ■ **Christopher M. Keran**, ChE, earned his MBA from Texas A & M in Corpus Christi, Texas, and works as VCM technical superintendent for Oxychem. ■ **Robert L. Lorey**, GeoE, transferred to the St. Louis office of CH2M Hill. ■ **David Gene Dressel**, ChE, has "been a quality assurance engineer with McDonnell Douglas in St. Louis for the last eight years." He was married in June 1993 and is living at 2361 Sarthe Court, St. Louis, 63043. ■ **Kevin Wayne Schneider**, EE, married Lisa Basler, "who was teaching instrumental music at the Rolla Public Schools," after graduating with his PhD. He and Lisa are now living in rural Huntsville, Ala., with their cat, Betty. Kevin is working for Adtran Inc. - "a fast growing telecommunication equipment manufacturer. Lisa now teaches music privately." ■ **Kevin Keith Derrick**, AE, writes, "Hello to my old friends and classmates. I am still a 'job shopper' on the F-22 program at Lockheed-Fort Worth and I spend most of my time on CATIA." ■ **Curtis David Eshelman**, NucE, writes, "Things are going great!" ■ **Charles S. Klump**, ME, and **Liesa**, EMgt '86, are doing fine and living in Springfield, Mo. Charles writes, "We're busier than we thought was possible

# ALUMNI NOTES

for a family of 5 and 2 dogs. Would love to see some old friends if you're ever passing through." ■ **Carol S. (Lohman) Haesle**, ME, married David A. Haesle on June 18, 1994. They are living Lewisville, Texas, and Carol is a project engineer for Peterbilt Motors Co.. ■ **Joel Addison Brand**, ChE, and **Ann Maxine (Carter) Brand**, CSci '84, have settled down in their new house. Joel writes, "I love my new job as a 'new product scientist' at Monitor Labs in Denver, developing photometric gas analyzers. I am working with **Bill Pham**, EE '92, and would like to hear from old friends and classmates." Joel can be reached at: 6990 Monty Place, Colorado Springs, Colo., 80908-2125.

### 1987

■ **Darrell Angleton**, GeoE, opened his own consulting firm, Angleton Environmental, in Alton, Ill. "Last year we bought an old home with terrazzo floors like the KA front hall. I just finished my second year of command of an infantry company in the Illinois National Guard." ■ **Nina Lisli-Avgoustopoulos**, ChE, lives in Atlanta, Ga., with husband George and their two children, Rebecca and Constantine. ■ **Clinton T. Ballinger**, NucE, writes, "I am trying to get more involved with medical physics research

**New Job? New Spouse? New kid?**

We would love to hear what's new with you! Send in your *Alumni Notes* news to:

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Rolla, MO 65401-0249

to become more diversified. I work as an adjunct professor at Albany Medical College after my real job at Knolls Atomic Power Lab. If anybody is in upstate New York, give me a call." ■ **Kevin M. Bullock**, ME, is a manufacturing engineer for Roadmaster Corp. in Delavan, Wis. ■ **John Fernandi**, ME, writes, "I married my high school sweetheart, and we have a ten-month-old daughter, Katelyn. Life is good." ■ **Lawrence Hamilton Jr.**, Hist, was appointed as pastor of the Bucklin and Mt. Zion United Methodist Churches in June 1994. He and Jill are enjoying their two-year-old son. ■ **Scott A. Higginbotham**, AE, was among 51 Kennedy Space Center employees who were honored for their exemplary work at the nation's spaceport in fall 1994. Scott works for NASA as a senior mission operations engineer. ■ **Susan Schumacher- James**, MetE, and Jerry were married May 28, 1994, and spent their honeymoon in Wales and on the Isle of Man. They live in Seattle where Susan works at Allied Signal and Jerry works at Boeing. ■ **David S. Meyer**, ME, EE'89, is attending the University of Wisconsin-Madison, working on his MSME in the vibrations and computational mechanics lab. ■ **MaryJo Meyer**, MSNucE, and husband Bill work at NASA. They have two children, Robert and Anna. ■ **Chris Neugebauer**, CSci, is president of his own consulting firm, Neutron Technologies. He and Lisa have two children, Kristin and Kirk. ■ **Don Russell**, MinE, took a job with Chemical Lime Co. as quarry superintendent at the Douglas Plant. Don and **Leslie (Whalen)**, EMgt, have two sons, Samuel and James. They live in Sierra Vista, Ariz. ■ **Michele (Meyer)**, CE, and **Brian Tate**, EE'88, finally settled in Texas by buying a house in Frisco, located north of Dallas. ■ **Bill Thomas**, CE, was appointed manager of the Des Moines branch of Western Waterproofing Co., responsible for all branch activities. The Western Waterproofing Co. is a member of the Western Group, and the Des Moines branch specializes in the areas of masonry restoration, concrete restoration and new construction preventive waterproofing. ■ **Douglas W. Whitman**, GGph, works offshore West Africa for Amoco in Houston, Texas. ■ **Jeffrey L. Costellia**, ChE, became a partner in Sixbey, Friedman, Leedom, & Ferguson in McLean, Va.

### 1988

■ **Lt. Cecil C. Bridges**, ME, was stationed off the coast of Haiti in September/October 1994 onboard the aircraft carrier USS America. The ship provided support for Navy and Army helicopter operations and special operations units in Haiti. ■ **Jacques Cattan**, ME, and Shannon Buckley were married in December 1992. Jacques is a staff engineer, structures, at The American Institute of Steel Construction in Chicago, Ill. ■ **Kevin P. Fuller**, CE, is now a registered professional engineer. ■ **Gregory J. Gibson**, ME, is on active duty as a lieutenant in the U.S. Navy, assigned to the Naval Postgraduate School pursuing a master's degree in aeronautical engineering. ■ **Chris E. Hardy**, MinE, incorporated his own business in August 1994, dealing with the design and construction of soil and groundwater remedial systems and the clean-up of petroleum-contaminated sites in the state of Wisconsin. ■ **Joseph Heberlie**, CE, became a professional engineer in July 1994. He works as a civil design engineer at David Mason and Associates in St. Louis, Mo. Joe and Jennifer have two boys, Justin and Jacob. ■ **Mark Hewlett**, ChE, and **Kelly (Keran)**, ChE'89, live in Bay City, Texas. Mark is a process engineer with Hoechst Celanese and Kelly is a production engineer with Phillips petroleum. ■ **Robert S. Ivy**, ME, moved to Springfield, Mo., from Minnesota in September 1993 to work for Anderson Engineering, a civil consulting company. ■ **Musa Karakus**, MSGGph, works as a research assistant in the ceramic engineering department at UMR. ■ **Rich Milner**, AE, is stationed overseas at Ramstein Air Force Base, Germany. Rich and his family enjoy traveling in Europe, and Rich loves his job. "I get to attend all of the major air shows in Europe as part of my job!" ■ **William R. Reed**, MinE, received his P.E. in South Carolina and in North Carolina in 1994. ■ **Timothy J. Rogaczewski**, CE, works in the bridge design department for the Indiana Department of Transportation. He received his P.E. in 1993. ■ **Kenneth A. Shelton**, AE, and Margaret J. Kaiser were married Sept. 3, 1994. Kenneth is working on the Titan IV and Atlas II programs at Cape Canaveral Air Force Base, Fla. ■ **Richard T. Bradley**, CE, was promoted to project engineer in January 1994 for the City of St. Louis Board of Public Service. ■ **Tom Roth**, CSci, and Veva live in Dallas, Texas, where Tom is a windows software developer for Gerber Information Systems.

### 1989

■ **Mark E. Barkey**, EMech, is a durability engineer for General Motors Corp. in Warren, Mich. He completed his Ph.D. in theoretical and applied mechanics at the University of Illinois. ■ **Stephen K. Brady**, CE, works as the concrete manager for Fru-Con Construction in Aswan, Egypt. "Fru-Con is repairing the Aswan high dam with silica fume concrete with a 28-day compressive strength of 62 MPA. The project is scheduled for completion in April 1995." ■ **John F. Broker**, EE, and Julie Ann Samson were married June 4, 1994. They live in Newton, Iowa, where Julie is a social worker and John is a research engineer for Maytag. ■ **Jeffery W. East**, CE, was reclassified as a hydrologist at the U.S. Geological Survey in Houston, Texas. ■ **Kevin Edwards**, NucE, completed his service in the U.S. Navy in December 1994 and works for Shared Savings Contracts, a small consulting firm in St. Louis. ■ **Dawnrae (Clark) Fuller**, CE, is now a registered professional engineer. ■ **Wayne A. Hopkins**, GGph, writes, "I have switched jobs to ENSR Consulting and Engineering. Dixie and I still travel a lot. **John Miller** '85 is my neighbor now." ■ **Michael D. Kilgore**, ChE, earned his Ph.D. at the University of California-Berkeley in fall 1994. He works for Novellus Systems Inc. in San Jose, Calif. Novellus makes plasma-assisted CVD equipment for microelectronics manufacturing. ■ **C. David Kirby**, EE, works as a distribution engineer for Central Illinois Public Service Co. in Marion, Ill. ■ **Capt. Scott D. Peel**, EMgt, and Sarah were married Aug. 13, 1994. Scott invites his old friends to drop him a line in Warrensburg, Mo. ■ **Kristin (Snyder)**, Chem, and Bob Ridenour were married July 17, 1994, on their sailboat. ■ **Jerald A. Smith**, MetE, and **Julie Ann (Robinson)**, EE'90, were married in May 1992. Julie works as an energy services engineer for Appalachian Power Co. in Charleston, W.Va., where they live. Jerry is a technical team leader for Elkem Metals Co. in Alloy, W.Va. ■ **Michael Robert Wehmeyer**, EE, writes, "1994 was a very good year!" He was promoted to Captain in the U.S. Air Force February 15; married the former Beth Wilkerson from Fenton, Mo.; left Kunsan AB, South Korea; and moved to Moody AFB, Georgia.

## *Nineties*

### 1990

■ **Joe Baker**, EMgt, and Tamalee (Jones) were married Oct. 1, 1994. Joe writes, "I finally found a girl who

## Email Addresses


**If you would like to get online with other alumni, send us your email address!**

**Ronald F. Vetter**, ChE'58, rfvetter@owens.ridgecrest.ca.us
**Eric L. Kratschmer**, ME'70, ekrats@aol.com
**Gary White**, CE'85, sendwater@aol.com
**Kim W. Tracy**, CSci'85, Math'85, kim.tracy@att.com
**Eric W. Metzger**, EE'85, emetzger@indiana.edu
**Bruce Borcherding**, EE'90, bmborche@cacd.rockwell.com
**Josh Robinson**, CerE'91, josh@ttl.ee.uconn.edu

didn't know me from college. Thanks to all those Sigma Chi brothers who showed up!" ■ **Thomas J. Bereswill**, ChE, writes, "**Scott Kellerman** (ChE'90), earned his PhDChE from Texas A & M in May 1994. He is working in Jeff City, Mo." ■ **Douglas P. Bruns**, CE, is starting his fifth year as an engineer with the North Carolina Department of Transportation. Douglas and Nancy have two children, Matthew and Rachel. ■ **Timothy J. Dickinson**, AE, and Lanna Benson were married in June 1994. Tim works in the Global Positioning System program office at The Aerospace Corp. ■ **Russell H. Henke**, CE, and Rachelle Brown were married June 11, 1994. Russell is a project engineer with Clayco Construction. Rachelle is pursuing an accounting degree at UM-Kansas City. ■ **Hsien-Ren Lee**, PhDME, is a product engineer with Chrysler, working on computational climate control projects for ice-melting patterns for windshields. He and his wife, Yin-Mei, have one daughter, Crystal. ■ **Steve Rist**, Engl, is pursuing a master's degree in instructional technology at Southern Illinois University in Edwardsville. ■ **R. Daniel Wiltshire**, EMgt, is a project engineer with Sealright Inc. Engineering Services in Kansas City, Mo. ■ **Colin J. Young**, GeoE, and Sandy Bongartz were married Oct. 15, 1994, and live in Cedar Park, Texas. Colin is working part time on a master's degree in geotechnical engineering at the University of Texas. He works as a geotechnical engineer with Trinity Engineering. ■ **Bruce Borcherding**, EE, is "still employed at Rockwell International in Cedar Rapids developing HF and VHF modems."

### 1991

■ **Timothy C. Andrews**, MSEMech, and Susan J. George were married May 7, 1994. They both work at McDonnell Douglas Corp. and live in Creve Coeur, Mo. ■ **Doug Cordier**, EE, and **Leigh (Clark)**, GeoE'92, were married Oct. 15, 1994, and live in Tulsa, Okla. ■ **James E. DeVaney Jr.**, AE, writes, "Still doing the navigator thing in Oklahoma City at Tinker Air Force Base with the E-3 AWACS." ■ **Scott Fletcher**, CE, was promoted to senior structural designer in the bridge division at the Missouri Highway and Transportation Department. ■ **Timothy E. Holland**, NucE, is a health physics specialist working in the radiation protection department at Illinois Power's Clinton Power Station. ■ **Melissa D. Klotz**, ChE, and Christopher Huff were married Sept. 17, 1994. They live in Overland Park, Kan., where Melissa works for Franklin Associates Ltd. and Christopher works for Informix Software. ■ **Chris Steineman**, ME, and **JoAnne (Stratman)**, CE'92, were married Sept. 10, 1994, in St. Louis, Mo. Chris works with ABB Power T&D and JoAnne works with Babcock & Wilcox. ■ **David B. Wunder**, CE, will work as a water resources engineer with Engineering Ministries International until March 1995 doing water supply projects in developing countries. ■ **Kathyrn R. Flaspohler**, AE, obtained her MSAE in May 1994 from the University of Maryland. She is currently working for the Naval Air Systems Command as an aerospace engineer in the Engineer and Scientist Development Program. ■ **Josh Robinson**, CerE, has returned to school to obtain a MSEE with an emphasis in electronic devices at the University of Connecticut at Storrs. Josh worked for three years for Philips Lighting Co. in Little Rock, Ark. Josh writes, "My current address is PO Box 266, Storrs, CT 02628, and my phone number is (203)427-6601."

### 1992

■ **Cynthia Arens**, CerE, got a job with Motorola's semiconductor product sector in Phoenix, Ariz., after completing her master's degree in materials science and engineering at the University of Michigan. ■ **Brian P. Carbrey**, AE, works for McDonnell Douglas in St. Louis, Mo. "I am currently working in the Phantom Works, McDonnell Douglas' Advanced Research and Development Group." ■ **Matthew A. Licklider**, ME, is a project engineer with Anheuser-Busch Cos., working on a new plant in Southern California. "I attended the 1994 Homecoming activities. It was my third time attending since graduation and was a very well put together weekend." ■ **Don Mayhew**, CE, joined Scott Consulting Engineers in Springfield, Mo., as a project engineer, providing expertise in water and wastewater projects. ■ **Gerald McCray**, ME, and Dottie were married in October 1992. Gerald is a flightline maintenance officer stationed at Little Rock Air Force Base, Ark., where he works with the C-130 aircraft. ■ **Richard L. Morris**, GGph, and **Lisa (Reeves)**, GGph'94, were married May 21, 1994. They live in Colorado, where Richard is a geophysicist with Samedon Oil Co. ■ **Mark W. Nelson**, ME, is a project engineer with the Perrier Group of America. In May 1994, he moved from St. Louis to Rancho Cucamonga, Calif., a suburb of Los Angeles. "I love my job, especially all of the traveling. I've been everywhere from California to New York and everywhere in between." ■ **Steve Puljak**, EMgt, and **Stephanie Ann Stroker**, ME, were married June 4, 1994, and live in Dallas, Texas. Steve is a manufacturing engineer at K-Tec Electronics. Stephanie is a process engineer for AT&T Bell Laboratories. She worked extensively on preparations which helped AT&T Power Systems become the first U.S.-based manufacturer to win the Deming Award. ■ **Lenard A. Smith**, NucE, is a postgraduate researcher at Oak Ridge National Laboratory in Tennessee. He earned his master of engineering degree from the University of Florida in December 1993. ■ **Marjorie (Krueger) Weldele**, AMth, and **Jeff**, EE'93, were married July 2, 1994. ■ **James S. Younger**, AE, earned his MSME from Texas A&M in December 1993 and works as a test engineer for Solar Turbines Inc. in Dallas, Texas. ■ **Dr. George W. Karr**, LSci, and his wife, Joyce, worked as volunteers in St. Jude's Hospital Dental Clinic in St. Lucia, West Indies, January 1995.

### 1993

■ **Dirk Frisbee**, Engl, and **Rebecca (Martin)**, Engl'90, were married. They both live in Rolla and work at UMR. ■ **Rickey W. Jennings**, ME, and Leigh (Beckemeier) were married June 25, 1994. They live in Springfield, Mo., where Leigh attends Southwest Missouri State University and Rickey works for Fasco Industries. ■ **Tony Kertz**, ME, and Sara Caruthers were married Oct. 15, 1994. ■ **Mitchell L. Rackers**, ME, started a new job at Wagner Casting Co. in Decatur, Ill., as a product development engineer. ■ **David Renfert**, ME, is enjoying life in Kansas City working for General Mills. ■ **Paul M. Sakowicz**, NucE, and Kristina Davitz were married Oct. 15, 1994. Paul is a sales engineer with Flodyne-Hydradyne Inc. ■ **Vernon A. Smith**, ChE, and **Mary E. (Nussbaum)**, ChE, were married May 28, 1994. Vernon is doing research at UMR and Mary is a chemical engineer at Sullivan Precision Metal Finishing. ■ **Scott R. Virtue**, ME, and **Tracy Lynn Greiwe**, ME, were married April 23, 1994. Scott is stationed at Los Angeles Air Force Base, Calif., working in the Global Positioning System program office. Tracy works at Varco B.J. Drilling Systems as an applications engineer. ■ **Thomas M. Walter**, MSME, works as a product design engineer for Ford Motor Co. and lives in Novi, Mich. ■ **Albert "Jay" Winkeler**, EE, Engl, and Deena (Ballinger) were married Aug. 6, 1994. Jay is a graduate student at the University of California-Santa Barbara.

### 1994

■ **Angie Dufner**, ME, works in the body structures testing department for Ford in Dearborn, Mich., according to her father, **Carl Dufner**, EE'71. ■ **Michelle L. Hill**, MSNucE, was one of seven students honored by the National Health Physics Society at their annual meeting in San Francisco, Calif., last year. ■ **Lisa M. Mooney**, ME, is a senior designer with Grove Worldwide in Shady Grove, Pa. ■ **Donna Riggs**, AMth, teaches junior high math in the Maries R-1 school district in Missouri. ■ **Matthew P. Tucker**, ME, graduated in October 1994 from Officer Candidate School at Naval Aviation Schools Command, Naval Air Station, Pensacola, Fla. ■ **Kevin D. Utterback**, ME, and Linda (Truesdell) were married June 25, 1994. Kevin works for TG-USA in Perryville, Mo. ■ **Jim Wagner**, Math, will be teaching eighth grade math and science in Ironton, Mo.

### Friends of Campus

■ **Freeman McCullah**, who attended UMR, was promoted to district engineer for the St. Louis Metro District of the Missouri Highway and Transportation Department. ■ **Bobby Wixson** and Brian Davies are co-editors of *The Society for Environmental Geochemistry and Health—Lead in Soil Recommended Guidelines*. The book represents six years of research and international review of the SEGH task force study; it is published by Science Review and available from St. Louis Press. ■

# Memorials

**1933**

**Kenneth E. Evans**, CerE, has died. At MSM, he was a member of Quo Vadis and was an Independent. Kenneth, better known as Ike, served as Humor Editor, Associate Editor, and Editor for the *Missouri Miner* and as secretary-treasurer for the Orton Society. Ike worked with the Ford Foundation in India for several years. After returning to the United States he designed one of the largest successful shuttle kilns of the time. He also worked for Allied Engineering Company. Kenneth lived in Golden, Colo., with his wife. (Information submitted by **Joseph E. Stevens '32**)

**1935**

**Harlan K. Hoyt**, ME, MSME '61, died Sept. 19, 1994. At MSM, he was a member of Pi Kappa Alpha, the American Society of Mechanical Engineers, and he also worked on the Missouri Miner. Harlan worked for Commonwealth Edison Company for 34 years in research, operating, training, and administration capacities in the nuclear field. He was manager of the production of the Edison nuclear facilities when he retired in 1973. Harlan lived in Midland, Texas, with wife Ruth. (Information submitted by Harlan's wife **Ruth Hoyt**)

**1937**

**Frank C. Appleyard**, MinE, PddEMin '68, passed away. At MSM he was a member of the Independents, Blue Key, and the Miner and Rollamo Trustees. Frank played football, obtaining four letters and serving as captain his senior year. He also served as captain of the MSM Band and as class president. Frank supported the Frank C. Appleyard Faculty Enhancement Fund and received the Alumni Service Award in 1985. He worked for US Gypsum and had retired to Tubac, Ariz., with wife Violet.

**1940**

**Charles Eugene Hall**, CE, passed away Jan. 1, 1994. At MSM, he was an associate member of the *Miner* Board. Charles also was a member of the Radio Club, American Society of Civil Engineers, Band, Engineers Club, Independents, and served as an assistant for NYA and the CE Department. He participated in intramural sports. Charles worked for the Missouri State Highway Department, the Bureau of Reclamation in Denver, and for International Engineering Company Inc. until his retirement in May 1982. Charles lived in San Carlos, Calif., with wife Josephine. (Information submitted by his wife **Josephine E. Hall**)

**1942**

**John W. Wise**, MinE, died July 12, 1994. At MSM, he was a member of Sigma Nu and the St. Pat's Board. John also worked for the *Miner* Board, Business Department and participated in a variety of intramural sports winning a First Place in wrestling at 175 lbs. He also worked as a mining engineer for Kennecott Copper Corp., for W E Neill & Associates, and as a self-employed consultant. John was retired and active in the National Society of Professional Engineers. John lived in Borger, Texas, with wife Lucille. (Information submitted by John's son **David Wise**)

**1944**

**Robert W. Mellis**, CE, passed away May 13, 1994. At MSM, he served as vice-president for Lambda Chi Alpha, vice-president for Interfraternity Council, and as treasurer for American Society of Civil Engineers. Robert worked on the *Miner* Board and the Rollamo Board, was a member of Student Council, and also served as a student assistant in the civil department. Robert worked as a consulting engineer for Hurst-Rosche and as a field engineer for Russell & Axon. In the 1950s, he worked as a self employed home builder until his retirement as owner of Mellis Building Co. Robert lived in Foristell, Mo., with wife Mary. (Information submitted by **Mary M. Mellis**)

**1961**

**James R. Ogle**, MetE, died on June 4, 1994. At MSM, he was a member of the American Foundrymen's Society, the American Society of Metals, and AIME, serving as secretary his senior year. James worked as a metallurgist for the Reynolds Metals Co., as a senior metallurgist for Kaiser Aluminum and Chemical, as both a manager of casting and a plant manager for Wells Aluminum Corp., as president of AR Billet Corp., as technical director for U. S. Reduction Company, as a self employed consultant for a short time, and as a foundry manager for Bonanza Aluminum Inc. James lived in Pembroke, Fla., with wife Laura. (Information submitted by his son **James R. Ogle, Jr.**)

**1965**

**Robert Earl Behnke**, CE, died June 18, 1994. At UMR, he was a member of American Society of Civil Engineers and Alpha Phi Omega. Robert appeared on the Honor List three times. He worked for the Department of Water Resources for the state of California, as construction supervisor, systems engineering supervisor, and manager of engineering for the St. Louis County Water Co., and Olin Corp. Robert lived in St. Louis, Mo., with wife Elaine. (Information submitted by wife **Elaine E. Behnke**)

**William A. Clifton, II**, MetE, died Oct. 19, 1994. At UMR, he was a member of American Society of Metals, American Foundrymen's Society, American Institute of Mining, Metallurgical, and Petroleum Engineers, and Alpha Sigma Nu. He worked for Armco Steel Corporation, Gardner-Denver Company, as a foreman for General Electric, as a supervisor for Monroe Steel Castings, as a foreman and quality control manager for Franks Foundry, for U-Brand Corporation, and as a foundry superintendent for Dover Corporation. William lived in Georgetown, Ind. with wife Sandra. (Information submitted by wife **Sandra S. Clifton**)

**1966**

**Gary H. Hunt**, Phys, died on Oct. 31, 1994. At UMR, he served as vice-president for the American Institute of Physics and for Sigma Pi Sigma; he was also a member of IEEE, the Fifty-niners, Kappa Mu Epsilon, Tau Beta Pi, Spelunkers, and received the National Science Foundation Undergraduate Research Scholarship. Gary worked at NASA's George C. Marshall Space Flight Center (MSFC) for over 15 years making major contributions to the optical stray light analysis of many of NASA's large astronomical observatories. He started out in the cooperative education program at MSFC in 1963 and joined Sperry Rand Corp. after graduating. Gary also worked for Brown Engineering Corp. in Huntsville and eventually joined MSFC in 1979. He lived in Huntsville, Ala., with wife Neva Mae Hunt. (Information submitted by **James M. Zwiener '67**)

**Lawrence John Reinsch, Jr.**, CE, passed away March 4, 1991. At UMR, was a member of GDI, MRHA, American Society of Civil Engineers, Missouri Society of Professional Engineers, National Society of Professional Engineers, Inter. Co-op Council, Newman Club, and Executive Council. Lawrence also served as president and on the Board of Control for Shamrock Club. He worked as assistant city engineer for the City of Washington, as resident engineer for Reynolds Metals Co., as project manager for Harris-Angsten Co., Inc., as vice-president and owner of Oak Lawn Construction Co., Inc., as senior construction manager for Lester B. Knight & Associates, and as senior management engineer, Director-Program Control, and associate director-plant facilities for Argonne National Lab. Lawrence made his home in Clarendon Hills, Ill., with wife Betty. (Information submitted by his son **Nicholas Reinsch**)

### Friends Memorials

• **Ronald O. Bryant**, who attended UMR, died Nov. 7, 1993. He was a member of Sigma Tau Gamma. Ronald lived in Alton, Ill. • **Marjorie R. DeWitt** has died. She was the widow of **Russell E. DeWitt**, CE'41. • **Nora Ferry** died of lung cancer Oct. 1, 1994. She was the wife of **Charles Ferry**, EE'51. • **Dorothy Fischer** died April 20, 1994. She was married to **Max M. Fischer**, ME'35. • **Iris H. Jones** died Oct. 30, 1993. She was the wife of **Walter T. Jones**, CE'37. • **Norbert J. Kreidl**, professor emeritus in ceramic engineering at UMR, died July 11, 1994, during a stay in Europe. He was in Liechtenstein to receive the unusual honor of having a week-long symposium on the frontiers of glass research staged in his honor. • **Mrs. Edgar M. Lancaster** has died. She was the widow of **Edgar M. Lancaster**, CE'51. • **Naomi Ruth (Rutledge) Weiser** passed away Nov. 10, 1994. Naomi's husband **Hanley Hartwell Weiser**, MetE '18, MSMetE '20, preceded her in death on Feb. 3, 1989. • **Ruth (Jeffries) Hackmann**, spouse of **Glen N. Hackmann**, CE '37, PddCE '48, passed away Sept. 27, 1994. • **William P. Charbonnier** passed away November 25, 1994.

ALUM REMEMBERED AS AN ADVOCATE FOR UMR PROGRAMS

## WILLIAM RUTLEDGE DIES AT AGE 70

William A. Rutledge, EE'46, addressed student groups at UMR many times. But he never changed his message.

He would begin by telling the students his annual compensation—a startling number for most undergraduates. "He didn't mind revealing that figure," says Walter J. Gajda Jr., UMR vice chancellor for Academic Affairs and the Rutledge-Emerson Distinguished Professor of Electrical Engineering.

Then, according to Gajda, he would tell the students: "There are only two differences between you and me. Number one, you're probably smarter than I am. But number two, if you put me in a room with you, I'll out-communicate you every time."

Mr. Rutledge's down-to-earth approach to communication helped ensure his success in manufacturing and, later, as an executive. It also no doubt helped UMR secure much of its support from Emerson Electric Co. in St. Louis.

Mr. Rutledge, who died of cancer at age 70 on Nov. 16, 1994, was one of UMR's most staunch advocates. The retired Emerson Electric executive will be remembered at UMR for his behind-the-scenes work to help the campus obtain many gifts from Emerson Electric.

"I'm sure Bill would be the first to say he wasn't the only person responsible, but we would not have had the same strong relationship with Emerson Electric if we hadn't had Bill in our corner," says Gajda. "He had a strong sense of loyalty to this institution, and he was constantly reminding the people at Emerson of their need to support this campus."

Mr. Rutledge helped UMR secure Emerson support for a variety of projects—including furniture for a student lounge, funds to establish a transfer program for St. Louis-area community college students, a grant for a machines and drives laboratory in the electrical engineering department, a $375,000 gift for an electronic information network in Curtis Laws Wilson Library, and $1 million for an addition to the EE building.

In 1987—a year after Mr. Rutledge retired from Emerson—the company gave UMR $300,000 to establish the William A. Rutledge-Emerson Electric Co. Distinguished Professorship in Electrical Engineering. Gajda was named the Rutledge-Emerson Distinguished Professor in 1988.

"He liked to refer to me as 'his' professor," Gajda says.

Mr. Rutledge grew up in St. Louis, where his father, a trolley car operator, taught him to take pride in his work and treat all people with dignity. Despite his success in the corporate world—he joined Emerson Electric after a 28-year career with General Electric, and he held seven patents for manufacturing processes—he managed to stay close to his working-class roots. "He had a wonderful way of communicating simply and precisely," Gajda says. Mr. Rutledge was also an ardent fan of the St. Louis Blues hockey team.

Even after retiring from Emerson Electric in 1986, Mr. Rutledge stayed active in the corporation. He used his manufacturing knowledge to develop an inventory-reduction plan for the company.

Mr. Rutledge retired as chief executive officer of Emerson in 1986. He received an honorary doctorate from UMR in 1987 and an alumni achievement award from the MSM-UMR Alumni Association in 1978.

Among the survivors are his wife of 44 years, Katherine V. Rutledge; three sons, Dr. William M. Rutledge and Richard A. Rutledge, both of Fort Wayne, Ind., and Robert K. Rutledge of Ladue; a daughter, Kimberly A. Moore of St. Louis; his mother, Gladys Rutledge of Lemay; a brother, Robert E. Rutledge, '46, of Lemay; and seven grandchildren.

A memorial service was held on Dec. 4 at Bonhomme Presbyterian Church in Chesterfield, Mo. In his eulogy to Mr. Rutledge, Emerson Electric CEO Charles Knight said Mr. Rutledge had "made greater contributions to Emerson Electric than any other individual."

# ALUMNI SECTIONS

## Central Ozarks Section

*Section President*
*Dennis McGee*
*HCR 82, Box 445*
*Bixby, MO 65439*
*(314) 626-4422*

The Central Ozarks Section met for dinner and a theatrical production Nov. 10, 1994. Forty-five alumni and their guests enjoyed the dinner served in Centennial Hall at UMR.

Dixie Finley, secretary-treasurer, called to order a short meeting. UMRs Chancellor John Park was introduced and brought greetings to the group from the University. New officers were elected for the coming year by unanimous vote: Dennis McGee, president; Randy Verkamp, president-elect, and Jennifer Bayless, secretary-treasurer.

With no further business the meeting adjourned to Leach Theatre for the UMR theater production of "LuAnn Hampton Laverty Oberlander." **(Submitted by Dixie Finley '68)**

*Attending: Jerry '59, 'and Shirley Bayless; Jennifer Bayless '89; Don and Nancy Brackhahn; Linda Bramel '89; Ev and Joy Brown; Butch '66 and Joyce Fiebelman; Charles and Dixie '68 Finley; Bill and Adele Heller; Glenn '79 and Barbara '81 Horter; Bob '40 and Connie Klug; Vernon '42 and Betty Loesing; Donald '48 and Alwilda Mathews; Dennis McGee '69; Robert '55 and Tommie Oetting; Ron and Sue Olson; Jack Painter '50; John and Dorcas Park; Gary '60, 'and Barbara '61, 'Patterson; Larry '73 and Pat Perry; Kent '50 and Winona Roberts; Ed '40 and Mabel Rueff; Scott Sandahl '93 and guest; Armin Tucker '40; Thomas '62, and Lana Van Doren; Robert and Clarissa Young.*

On Jan. 29, 1995, the **Central Ozarks Section** held its January meeting and Champagne Brunch at the Engineers Club at Fort Leonard Wood. This event was hosted by Merrill Stevens. After the brunch, a brief business meeting was held where president Dennis McGee announced upcoming events for this spring, and scholarship chairman Bob Klug announced the recipient of our section's Alumni Section Scholarship. Once the meeting concluded, a tour was given of the Engineers Museum. **(Submitted by Jennie Bayless '89)**

*Attending: Jack Painter '50; Ed '40, Mabel and Myrna Rueff; Jerry '49 and Mary Frances Berry; Harold '66 and Joyce Fiebelman; Donna '86 and Karen Peacock, Don and Nancy Brackhahn; Gary '60 and Barbara '61 Patterson; Mrs. W.P. Eyberg '50; Bill and Adele Heller; Armin Tucker '40; Bob '40 and Connie Klug; Jerry '59, Shirley and Jennie '89 Bayless; Dennis McGee '69; Dixie '68 and Charlie Finley; John '51 and Betty Smith; Suzanne '94 and Ron Olson; Rodney '47 and Helen Schaefer; Camille Consolvo and Bob Ybarra.*

## Lincolnland

*Section President*
*Patrick J. Toby*
*1010 Pioneer Dr.*
*Jacksonville, IL 62650*
*(217) 243-3709*

The **Lincolnland Section** held their dinner meeting at the Springfield Best Western East Nov. 17, 1994. The 17 persons in attendance heard an interesting presentation by UMR engineering management department chair Bill Omurtag on the status of the engineering management department at UMR. The dinner was coordinated by Jerry Parsons '70. **(Submitted by Jerry Parsons '70)**

*Attending: Bill '59 and Betty Buren; Gary '74 and Debra Hutchison; David Tepen '90; Leland Meyer '70; Richard Berning '69; Pat Toby '88; Bob '52 and June Uthoff; Jerry '70 and Mary Parsons; Ed '69 and Anne Midden; Bill Omurtag; Ken Daniels '90; Greg Sanders '91.*

### Section Leaders:

Deadlines for section news articles for coming issues of the *MSM Alumnus* are as follows:
**Summer Issue** - May 1
Fall Issue - July 1
Winter Issue - November 1

*At the reception following the UMR Lady Miners basketball game in Phoenix were: (seated) Betty and Bob Perry; Maxine and Lawrence "Chris" Christenson, and James Kvetensky. (Standing) George Axmacher, Norman and Armin Tucker, Shirley Knecht, Stacy Stover Austin and Walter Knecht.*

## Phoenix

*Section President*
*Walter Knecht*
*17207 Desert Glen Dr.*
*Sun City West, AZ 85375*
*(602) 546-6672*

The **Phoenix Section** went to Yesterday's nostalgic dinner theater in Phoenix on Saturday evening, Nov. 12. Twenty alumni and spouses gathered at "the restaurant of nostalgia" to sing, laugh and generally enjoy the entertainment and reminisce about old times. Preliminary plans were made for the next meeting at one of the spring training ballparks in March 1995. **(Submitted by Walter Knecht '49)**

*Attending: Cindy Arens '92; Karl '62 and Carol Brown; Cheryl Clark '83; Bill Hallett '55; Joe Henry '53; Jacqueline King '92; Walter '49 and Shirley Knecht; Sam '51 and Joyce Napp; Salar Navidi '81, Robert '56 and Carol Robbins; Charles '47, and Doris Shulze; Leroy '39 and Marcella Smith; F. J. '60 and Pat Taylor.*

## St. Louis/ McDonnell Douglas

*St. Louis Section President*
*Ron Jagels*
*(314) 531-4321 (W)*

*McDonnell Douglas Section President*
*Jill Finklang*
*879 Whitmoor Dr.*
*St. Charles, MO 63304*
*(314) 750-1917*

The **St. Louis** and **McDonnell Douglas Sections** held their second annual casino riverboat night Friday, Nov. 18, 1994, with over 75 people in attendance. The evening started off with the group gathering after work at the St. Louis Brewery Tap Room, a micro-brewery where members were able to sample some of the freshly brewed beers.

The group then boarded two chartered buses for a trip to the Alton Belle Casino in Alton, Ill., where we feasted on a buffet dinner of prime rib, crab legs and shrimp. After dinner we boarded the riverboat casino and tried our luck at the various games. Blackjack and slots seemed to be the favorites for the evening. The night ended with a bus ride back to the Tap Room. **(Submitted by Ron Jagels '86, '91)**

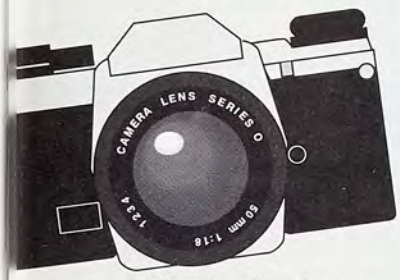
*Attending: Dave '82 and Becky Akers; Bob '72 and June Berry; Carolyn Bertelsmeyer; Les and Maureen Boering; Herman '44, 'and Viola Brinkmann; Ken Busch '72; Dave '77 and Margaret Diestelkamp; Randy Dreiling '81; Millard '85 and Amy Dunham; Tom '75 and Kirsten Ellis; Gene '65, 'and Barb Faenger; Paul Fleischut '85; Lisa Gallagher '81, 'and Jim Whetsel '81, 'Tom '50 and Mary Herrmann; Curt '70, 'and Andi Hertel; Phil '64 and Frances Hoge; Ron Jagels '86, Ed and Patty Johnson; Phil '66 and Barbara Jozwiak; Kelley*

*Jozwiak '91 and Marc Thomas '93; Terry and Judy Keran; Len '66, '78, and Mary Kirberg; John '81, and Judy Laschober; John '79, and Lora Lodderhose; Bill McDaniel; Scott '86 and Cathy Nall; Jim '68 and Geri Petry; Mike and Jackie Potter; Steve '70 and Mary Probst; Tim '87 and Joan Reddy; Charles '49 and Nonie Ross; John '43 and Dorothy Schilling; Wayne Schmidt '83, Rich '86 and Tracy Spitznagle; Howard '67, and Jeri Stine; Andy '80 and Jane Tayon; Ralph '50 and Peggy Wolfram; Dave '89 and Cheri '88 Zimmerman.*

## Class of '42

The Class of '42 met in early September 1994 for their annual get-together. This year's meeting was at the Samoset Resort in Rockport, Maine, about 140 miles northeast of Portland. We were there about a week, and most of us played golf.

*The following attended: George and Norma Axmacher, Bob and Kay Brackbill, Bill and Catherine Bush, Hugh and Roberta Clark, Bill and Dickie Hill, Harold Kruger, Vernon McGee and Bob Pohl.*




**Attention Section Shutterbugs!**

We'll be glad to print photos taken at your events - just send them in! They need to be good quality, clear pictures, preferably showing some of the fun at your event. Either color or black-and-white pictures are acceptable, but **please** identify those people in the picture. If you'll send several, we'll pick the best for publication.

**Is there a section near you?**

**With 28 sections all over the country it's easy to get involved in your alumni association!**

| | | | |
|---|---|---|---|
| **Alaska** | John W. Hentges | 3501 Ebbtide Circle | Anchorage, AK 99516 |
| **Ark-La-Tex** | John Moscari, Jr. | 503 Coleman | Longview, TX 75601 |
| **Central Ozarks** | Dennis McGee | HCR 82, Box 445 | Bixby, MO 65439 |
| **Chicago** | Tim & Marla Jedlicka | 22W204 Hackberry | Glen Ellyn, IL 60137 |
| **Colorado** | Hugh E. Blevins Jr | 2155 So Owens Ct. | Denver, CO 80227 |
| **Dallas/Ft. Worth** | Stephen Puljak | 418 Castlewood Dr. | Garland, TX 75040 |
| **Georgia** | George W. Leck | 3523 Midvale Rd | Tucker, GA 30084 |
| **Heartland** | Gene W. Edwards | 159 Hillmont Dr. | Paducah, KY 42003 |
| **Houston** | Wayne Andreas | 1802 White Feather Trail | Crosby, TX 77532 |
| **Kansas City** | Nancey R. Spaith | 12300 W 65th Terrace | Shawnee, KS 6621 |
| **Lincolnland** | Patrick J. Toby | P.O. Box 818 | Jacksonville, IL 62651 |
| **McDonnell Douglas** | Jill Finklang | 879 Whitmore Dr. | St. Charles, MO 63304 |
| **Miami** | Rene J. Leonard | 9030 Old Cutler Rd. | Miami, FL 33156 |
| **Miner Music** | Randall Skaggs | 12822 Capistrano Dr. | Creve Coeur, MO 63141 |
| **New Orleans** | Darryl Moore | 2425 Oxford Pl Unit 107 | Terrytown, LA 70056 |
| **Northeast Ohio** | Hugh C. Kind | 1021 Morewood Parkway | Rocky River, OH 44116 |
| **Northern Alabama** | John P. Dunbar | 622 Patterson Lane | Meridianville, AL 35759 |
| **Oklahoma** | Glen A. Larsen | 3209 E. 77th Pl | Tulsa, OK 74136 |
| **Pacific Northwest** | Todd C. Groennert | 22702 90th Way S. #A203 | Kent, WA 98031 |
| **Phoenix** | Walter Knecht | 17207 Desert Glen Dr. | Sun City West, AZ 85375 |
| **St. Louis** | Ron Jagels | 8618 Elgin Ave. | St. Louis, MO 63123 |
| **San Diego** | Albert S. Keevil | 1442 Yost Dr. | San Diego, CA 92109 |
| **Southern California** | James D. Gostin | 180 Mount Olive Dr. | Bradbury, CA 91010 |
| **Springfield, MO** | Lawrence D. Wolf | 2360 E. Grandview St. | Springfield, MO 65803 |
| **Tucson** | William M. Hallett | P.O. Box 64216 | Tucson, AZ 85728 |
| **Washington, D.C.** | Eugene Bae | 2915 Wisckersham Way, Apt. T-2 | Falls Church, VA 22042 |
| **West Florida** | John Van Nort | 4908 W Country Club Dr. | Sarasota, FL 34243 |
| **West Texas** | J. Michael Party | 6209 Driftwood | Midland, TX 69707 |

# AROUND THE COUNTRY

## *UPCOMING MINER ALUMNI EVENTS*

| WHEN | EVENT | WHOM DO I CONTACT? |
|---|---|---|
| 22 | Alumni Board Meeting, Rolla, MO | Alumni Office, 314-341-4145 |
| 28-29 | Alpha Phi Alpha Reunion, Rolla, MO | Alumni Office, 314-341-4145 |
| 6 | Ark-La-Tex Section, Longview, TX | Gene Rand '62, 903-759-1661 |
| 11-13 | Class of '45 Golden Alumni Reunion | Alumni Office, 314-341-4145 |
| 20-21 | Order of the Golden Shillelagh | Development Office 314-341-4944 |
| TBA | St. Louis/McDonnell Douglas Section Cardinals Baseball Game | Ron Jagels '86, 314-531-4321 (B) |
| TBA | Heartland Section | Gene Edwards '53, 502-554-2415 |
| TBA | Northern Alabama | John P. Dunbar '84, 205-828-5874 |
| 3* | Central Ozarks Pig Roast | Dick Elgin '74, 314-364-6362 (B) |
| 21* | North Alabama Section | John P. Dunbar '84, 205-828-5874 |
| 15 | St. Louis Section Golf Tournament | Phil Jozwiak '66, 314-571-1172 (B) |
| TBA | Central Ozarks Country/Western Show | Dennnis McGee '69, 314-626-4422 |
| 9 | Central Ozarks Shrimp Feed | Gary Patterson '60, 314-341-4149 (B) |
| 10 | Central Ozarks Champagne Brunch | Dennis McGee '69, 314-626-4422 |

*Tentative

ALUMNI ON-LINE

# Joe Miner Gets Wired

## Your Alumni Office is online!

You can send address changes, news for the Alumni Notes section of the *MSM Alumnus*, wedding and birth announcements, or any other information to the Alumni Office via email. The address is *alumni@umr.edu* (formerly *alumni@umrvmb.umr.edu*). You can also use this address to request addresses/phone numbers of your fellow alumni, or for asking other questions about alumni topics. If we can't answer the question for you, we'll be glad to forward your email message to someone who can.

## Send us your email address

We're now able to keep email addresses on our alumni database, and we'd like to include yours! At some future date (we hope not TOO far distant), we plan to make email addresses available on the World Wide Web for those who'd like to be "listed." So send us your address (to *alumni@umr.edu*) and we'll add you to the list.

## Are you online?

If you use electronic mail, we'd like to know how you access it. We're considering several different options for giving alumni a means of communicating with each other in a forum, bulletin board or chat group situation. Many of the commercial services are now offering these capabilities, and before we make any decisions, we'd like to know where our alumni are now.

Help us better serve you. Read the information below and return it to us one of the following ways:

| | |
|---|---|
| FAX | 314-341-6091 |
| Mail | Computer Survey<br>114 Castleman Hall, UMR<br>Rolla, MO 65401 |
| Email | *alumni@umr.edu* |

❶ I'm on the information superhighway, using:

- ❑ direct Internet connection
- ❑ CompuServe
- ❑ America OnLine
- ❑ Prodigy
- ❑ Delphi
- ❑ e-world
- ❑ GEnie
- ❑ Netcom
- ❑ another commercial service called: _____
- ❑ other (please tell us) _____

❷ I ❑ do ❑ do not have access to the World Wide Web.

## NOT ON LINE BUT YOU WANT TO BE? HERE'S HELP:

If you have a computer and a modem, you are just a phone call away from the information superhighway. Here are toll-free numbers for several of the major online service providers:

| | |
|---|---|
| America OnLine | (800) 827-6364 |
| CompuServe | (800) 848-8199 |
| Delphi Internet Services | (800) 695-4005 |
| e-world (for Apple users) | (800) 775-4556 |
| GEnie | (800) 638-9636 |
| Prodigy | (800) 776-3449 |
| INTERNIC (an Internet information service which has a list of access providers) | (800) 444-4345 |

## Alum Heads RollaNet Project

Meg Brady, CSci'83 is collaborating with several other Rolla-area residents to form the **RollaNet**, a community network project. RollaNet—currently in the experimental stage—will provide Internet access using state-of-the-art technology. At present, RollaNet is operating on university equipment, but the project group must have its own server and related equipment before it can fully go on-line. The RollaNet group is actively seeking funds to support this project and is offering charter memberships for gifts of $100 or more. RollaNet also welcomes any information on possible equipment donations or grant opportunities. If you can help, please email *info@rollanet.org* or write to RollaNet, P.O. Box 2021, Rolla, MO 65401.

# UMR Email Addresses

ACADEMIC DEPARTMENTS

| | |
|---|---|
| Academic Affairs | gajda@ee.umr.edu |
| Aerospace Studies (AF ROTC) | afrotc@umr.edu |
| Athletics | jharris@umr.edu |
| Basic Engineering | basengr@umr.edu |
| Ceramic Engineering | eddings@umr.edu |
| Chemical Engineering | chemengr@umr.edu |
| Chemistry | chem@umr.edu |
| Civil Engineering | cealum@novell.civil.umr.edu |
| Comparative Civilizations Rev | c0402a@umrvmb.umr.edu |
| Computer Science | compsci@umr.edu |
| Continuing Education | debbyt@shuttle.cc.umr.edu |
| Dean of Arts & Science | casdean@umr.edu |
| Dean of Engineering | se-dean@umr.edu |
| Dean of Mines & Metallurgy | stogsdil@umr.edu |
| Economics | econ@umr.edu |
| Electrical Engineering | eefac@ee.umr.edu |
| Engineering Management | emgt@umrvmb.umr.edu |
| English | engl@umr.edu |
| Geological & Petroleum Engr | lguyton@umrvmb.umr.edu |
| Geology & Geophysics | geology1@umrvmb.umr.edu |
| History & Political Science | hist@umr.edu |
| Life Sciences | lifsci@umr.edu |
| Management Systems | mgsys@umr.edu |
| Math & Statistics | math@umr.edu |
| Mechanical & Aerospace Engr | maem@gearbox.maem.umr.edu |
| Metallurgical Engineering | metaleng@umrvmb.umr.edu |
| Military Sci. (Army ROTC) | armyrotc@umr.edu |
| Mining Engineering | mining@umr.edu |
| Nuclear Engineering | jbade@shuttle.cc.umr.edu |
| Philosophy & Liberal Arts | pla@umr.edu |
| Physical Education & Recr. | pe@umr.edu |
| Physics | phy@umr.edu |
| Cloud Physics | casl@umr.edu |
| Psychology | psyc@umr.edu |

CENTERS, INSTITUTES AND LABORATORIES

| | |
|---|---|
| Biochemical Proc Institute | ail@shuttle.cc.umr.edu |
| Center for Cold-Formed Steel | ccfsf@novell.civil.umr.edu |
| Center for Economic Education | maryw@umr.edu |
| Center for Envr Sci & Tech | cest@umr.edu |
| Center for Integrated Manf | hubbardk@shuttle.cc.umr.edu |
| Center for Tech Transfer | gossf@ext.missouri.edu |
| Cloud & Aerosol Sci Lab | c0548@umrvmb.umr.edu |
| Cloud Nuclei Lab | c0548@umrvmb.umr.edu |
| Cloud Simulation Lab | c0548@umrvmb.umr.edu |
| Design Engineering Ctr | ragsdell@umr.edu |
| Electron Mat Proc & Char | harlanua@umr.edu |
| Energy Analysis & Diag Ctr | hegler@ee.umr.edu |
| Engineering Education Ctr | jhahn@umrvmb.umr.edu |
| Envir Trace Sub Res Ctr | etsrc@umr.edu |
| Envir Res Center | c3247@umrvmb.umr.edu |
| Experimental Mine | mining@umrvmb.umr.edu |
| Extractive Metallurgy | panderso@umrvmb.umr.edu |
| Grad Ctr for Materials Res | mrc@umrvmb.umr.edu |
| High Pressure Water Jet Lab | snelsonv@umr.edu |
| Inst for Applied Math | ingram@umr.edu |
| Inst for Extract Met | panderso@umrvmb.umr.edu |
| Inst for River Studies | stevens@novell.civil.umr.edu |
| Intelligent Systems Center | rao@isc.umr.edu |
| Mo Min & Mineral Res Resrc | saperste@umrvmb.umr.edu |
| Process Data Exchange Institute | pdxi@umr.edu |
| Rock Mechanics | snelsonv@umr.edu |
| Technology Search Center | gossf@ext.missouri.edu |
| Transportation Institute | dyannc@novell.civil.umr.edu |
| Western Historical Manuscript | mstauter@umr.edu |

ADMINISTRATIVE DEPARTMENTS

| | |
|---|---|
| Administrative Services | carolynh@shuttle.cc.umr.edu |
| Admissions/Financial Aid | egghead@umrvmb.umr.edu |
| Affirmative Action | chapman@shuttle.cc.umr.edu |
| Alumni Office | alumni@umr.edu |
| Archives | c0402a@umrvmb.umr.edu |
| Career Opportunities Center | mridley@umr.edu |
| Cashier's Office | cashier@umr.edu |
| Chancellor's Office | parkj@shuttle.cc.umr.edu |
| Computer Postmaster | postmaster@umr.edu |
| Computing Services Office | office@umr.edu |
| Counseling & Career Dev | aparsons@umrvmb.umr.edu |
| Greek Life | potrafka@umrvmb.umr.edu |
| Health Services | mread@umr.edu |
| Housing | c2944@umrvma.umsystem.edu |
| Human Resources | abbott@shuttle.cc.umr.edu |
| International Programs | iep@umr.edu |
| Leach Theater | leach@umr.edu |
| Library | jse@umrvmb.umr.edu |
| Minority Student Services | rlc@shuttle.cc.umr.edu |
| News Services | c2873tdh@umrvmb.umr.edu |
| Occupational Health & Safety | rayb@shuttle.cc.umr.edu |
| Police | bleckman@umr.edu |
| Publications | fillmer@umr.edu |
| Purchasing | vc@shuttle.cc.umr.edu |
| Registrar | registrar@umr.edu |
| Residential Life | c2944@umrvma.umsystem.edu |
| Student Affairs | stu-aff@umr.edu |
| University Advancement | mmills@umr.edu |

STUDENT ORGANIZATIONS

| | |
|---|---|
| Miner Newspaper | miner@umr.edu |
| Student Union Board | sub@umr.edu |
| Student Council | stuco@umr.edu |

# World Wide Web

## UMR 's 'piece of the Web'

Go to **http://www.umr.edu/** to find the UMR home page on the World Wide Web, which serves as a "table of contents" to other UMR-related home pages and information about UMR, including the MSM-UMR Alumni Association home page at **http://www.umr.edu/alumni/**. Thanks to the volunteer efforts of Richard Altheide CSci'84, you'll find information about upcoming section events, association history and more. This is still a "work in progress," so if you don't find what you're looking for there, let us know and we'll try to put it on.

## Can't Wait to Read the Next *MSM Alumnus*? Try the Web!

Starting with this issue, the final draft of the *MSM Alumnus* magazine will be placed on the World Wide Web as soon as it goes to print. Point your browser to the alumni home page at **http://www.umr.edu/alumni/** to get the news while it's hot!

## Electronic Voting

UMR's Student Council is working on having "electronic elections," using electronic media to allow campus-wide elections for student body president. In the past, campus-wide elections were not feasible because of lack of voter turnout, but the new technology should allow each student to easily have a voice in student government.

## Just for Fun

If you'd like to check out other colleges and universities around the world, to see what they've got on the World Wide Web, go to **http://www.mit.edu:8001/people/cdemello/univ.html**.

## Applying to UMR?

If you know a prospective student who is planning to fill out an application for admission to UMR, it can now be done through the UMR home page at:

***http://www.umr.edu/***.

MINER SPORTS

Balancing athletics and academics is a way of life for UMR athletes. Road trips are part of the deal.

# Road W

Tim Holloway had never been on a "real" road trip before he joined the UMR basketball program in 1993. For Holloway and his teammates at St. Louis' McCluer High School, bus rides to games with opponent schools throughout St. Louis County rarely lasted more than 20 minutes.

For Chris Bohannon, a senior guard for the Lady Miners, high school road trips were a little longer. But even Bohannon never made more than a three-hour round-trip with her Lebanon High School teammates to play a game anywhere.

When Holloway, Bohannon and other UMR student-athletes came to the athletic program at UMR, it didn't take long for them to learn that three hours would be a short trip, one-way.

And road trips in the far-flung Mid-America Intercollegiate Athletics Association can seem even longer when a test or major class assignment is looming back at Rolla.

But balancing athletics and academics is a way of life for UMR athletes, and road trips are part of the deal. To comply with MIAA requirements, the Miner and Lady Miners basketball teams must play at least eight games away from Rolla. The football team must play four or five games on the road each season, and the baseball and softball teams play numerous games on the road—including games that are rescheduled to less favorable dates due to the weather.

Small-college athletes may get even more road-weary than those who play at larger schools. While most high school teams can reach their destinations by bus in anywhere from 10 minutes to an hour, major college teams generally fly from one town to the next. For schools like UMR, playing in the ranks of NCAA Division II, budgets are not built for regular airline travel, and most of the opponents are more than a one- or two-hour drive away.

UMR competes in a conference with schools in towns far-away northeast Missouri—such as Maryville and St. Joseph. And then there are the teams in Kansas—Washburn in Topeka and Emporia State in Emporia. Trips to any of these destinations require at least four and a half hours of one-way drive time. And in the rugged MIAA, where several teams annually qualify for NCAA post-season play, no game on enemy turf is easy.

Nor is studying after one of these contests.

"Traveling on the road is pretty tough," says Holloway, a sophomore guard who was the Miners' leading scorer during the 1994-95 season. "The away games are a lot harder to play than the ones at home, because they are more physical and it takes more energy to play them. That, combined with the schoolwork here at UMR, makes it tough."

Holloway has put his road experience to good use in the classroom. "I did a speech last semester about the difficulties of being a student-athlete and how the workload is so hard," he adds. "Some nights you might be on the bus after a tough game, a tough loss, and have hurt your ankle in the game, but you have two or three tests the next day. So you have to study on the bus, under a little light, trying to get your work in.

"I don't think we get enough credit for what we do, but some of us are getting a free education so it is something we have to deal with."

During a "shoot-around" practice session on a February road trip to Emporia, head men's basketball coach Dale Martin put it this way: "When you arrive back

# warriors

in town after a game at 4 or 5 a.m., it is difficult when you have a 7:30 a.m. class. You could be sitting in class, but to get anything out of it will be very hard to do.

"Road trips in this league have become tough because of the length of the trips and the way the conference has changed geographically," says Martin. "Most of the teams in the conference are now west of us. We have student-athletes that are productive in the classroom, but it has gotten to the point that it is very difficult because of the length of time spent away from class."

Life on the road isn't all bad. Coaches view road trips as a chance for team members to bond socially and emotionally—and as a way to set a routine to prepare for the game that night. At home, forging relationships can be difficult because players spend their day tending to academic needs and may not even see the gym until they arrive that night to play.

On the road, things are quite different. To avoid missing classes and to get some quality practice time before recent games at Emporia State University, the teams did not leave Rolla until 6 p.m. the night before the game. They arrived in Emporia at around 11:15 p.m. When the team is taking a one-day trip, the bus leaves sometime in the late morning or early afternoon to ensure that the student-athletes miss as few classes as possible.

On long trips, leaving the night before is far better than waiting until the next day, says head women's basketball coach Linda Roberts. "When you travel like this—when you sit and sit and sit—it is really challenging physically to hop out of the bus and do anything," she says. "So it is almost impossible to ask a team to get off a bus after a long period of inactivity and expect them to play well. This is an important game for us and it is a game we need to be mentally and physically prepared for, so we need the routine of the shoot-arounds and pre-game meals and pre-game talks and activities late in the afternoon to get ready for the game."

Early the following morning—a Wednesday—in Emporia, the Lady Miner players begin the routine with breakfast while Emporia State students head to class. After breakfast, both the men's and women's teams get on the bus and head over to White Auditorium, where they will play later that evening. When they arrive, the men's team stays on the bus to watch a videotape of their opponent playing against Missouri Southern State College. The women head inside to practice.

"It is important to stay in some kind of routine, whatever your normal routine is for a trip like this," Roberts says. "You want enough inactivity so that they can rest to get ready for the game, but you don't want too much because they tend to be sluggish. So it's really kind of a challenge to balance the day so that there is some of both."

Of course, with all of the time available on such long trips, many players use some of it to study. Bohannon, who studied for a physiology test during the drive to Emporia, says she has developed a routine for fitting her classwork into the basketball schedule.

"When we go on road trips, I spend at least two hours doing homework going up and coming back," Bohannon says. "It is a lot of work, and missing classes is tough because you miss a lot of material. I find it a little easier because I don't have things to distract me like television or radio, but sometimes it is hard to study on a bus. You just have to make yourself do it."

Senior guard Rod Jackson agrees. "To me, the hardest part is making yourself study in a different environment," he says. "Especially in a motel room, being that you've been on a bus for maybe five hours and you're not in a comfortable situation. But when it comes down to it, you have to do it, and it just takes a lot of discipline.

"You also have to take care of the responsibilities here before you leave," he says. "Before we went to Emporia, I was in the library working on a project that was due on Thursday, and since I knew I wasn't going to be here Tuesday or Wednesday night, I had to work on it ahead of time to get it finished."

Senior forward Katherine Kersten must make special accommodations to do well in her chosen major of computer science. Since she doesn't own a laptop computer to take with her on road games, "a lot of times, I'll write down (assigned) programs by hand, and then once I get back, I'll go to the lab to type them in and hope there aren't many mistakes."

Most UMR student-athletes have found a way to balance their studies to the time spent away from the classroom. Kersten, who has posted a 4.0 grade point average in five different semesters, Bohannon and Jackson are all on schedule to graduate. Holloway had a B-average during the 1994 fall semester.

"You have to be dedicated to both things, particularly because the academics play a large part in what you are doing," Jackson says. "So you really have to focus on that—and just enjoy basketball on the road." ■

Story and photos by John Kean

MINER SPORTS

# SPORTS BRIEFS

***Miner swimmers heading back to national meet***

A pair of Miner swimmers recently made an encore appearance at the NCAA Division II Swimming Championships. **Dikan Rendic**, an All-America performer last season, made the championships in the 100-yard freestyle. **Bill Unzicker**, who competed in the national meet last season as a freshman, qualified in the 400-individual medley and swam in multiple events at nationals. The meet was held in Canton, Ohio, in March.

Rendic and Unzicker's early-season performances led the Miners to a 6-1 dual meet record by February. The only loss this season came at the hands of Southwest Missouri State University during a triangular meet hosted by Southwest. Earlier, UMR won the Washington University Relays and finished third at the Arkansas-Little Rock Invitational. At Little Rock, the Miners finished behind powers Western Kentucky and Henderson State but ahead of a Drury College team expected to contend for the NCAA Division II championship.

***Lady Miners post upset win over ranked team***

Buoyed by a win over the seventh-ranked team in NCAA Division II, the Lady Miner basketball team is turning the 1994-95 campaign into a success.

UMR's 11-9 record through Feb. 4 includes a 70-57 win over a Pittsburg State team that came into the game with the high national ranking and a 13-1 record. Junior guard **Christie Williams**, the top returning scorer from last season's squad, had 22 points in the win. She is among the Lady Miner leaders in several statistical categories.

Freshman guard **Becky Reichard** is the Lady Miners' top scorer, averaging 16.5 points per game, and senior forward **Katherine Kersten** has been the top rebounder, with several double-figure rebound games. Senior forward **Chris Bohannon** and sophomore center **Heather Hartman** have played well on the defensive side.

***Miners hampered by injuries in '95***

The men's basketball season turned south in January, when injuries knocked two inside players out of the lineup.

UMR opened the season with an 8-1 record and a seven-game winning streak that fell one victory short of the school record. The streak ended just before Christmas on a buzzer-beating three-pointer from Drury College.

Following a tough loss to No. 4-ranked Missouri Western to open conference play, the Miners beat Northwest Missouri State 76-69 thanks to a big game by junior forward **Jamie Brueggeman**. The 6-foot-9 Brueggeman is the Miners' second-leading scorer and is among the national leaders in rebounding and blocked shots. In December, Brueggeman broke the UMR career record for blocks and later recorded his 100th blocked shot.

Injuries hit the Miners right after the Northwest game, claiming Brueggeman and sophomore center **Jeff Kokal**, the team's third-leading scorer. The loss of these two big men factored into the Miner record of 9-11 through Feb. 4.

UMR's leading scorer has been sophomore guard **Tim Holloway**, who averages 17.7 points per game. The Miners have also received solid contributions from senior guard **Rod Jackson**, junior forwards **Ryan Wade** and **George Lee** and sophomore forward **Scott Rush**.

***Wallock, Nix make football All-America teams***

Miner football standouts **Jerry Wallock** and **Darin Nix** were selected to various All-America teams following the recent Miner football season.

Wallock, a senior defensive tackle, was named second-team All-America by *Football Gazette*, third-team All-America by the sports information directors from NCAA Division II, and honorable mention on C. M. Frank's small-college All-America team. He also was the top vote-getter at his position on the sports information directors' all-region team and made the all-conference team for the third straight season.

Wallock also played in January's Snow Bowl, a Division II all-star game held in the Fargodome in Fargo, N.D. He recorded two tackles while playing for the victorious West squad. For the Miners in 1994, Wallock was among the team leaders in several defensive categories, including sacks and tackles for lost yardage.

Nix, a senior free safety, was also selected third-team All-America by the sports information directors and honorable mention by *Football Gazette* and C. M. Frank. Nix, also a second-team all-region selection, led the Miners in interceptions for the second straight season and produced a streak of eight consecutive games with a pass interception.